

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
Richmond Division

THE UNITED STATES OF AMERICA,

Plaintiff,

versus

3:21 CR 021

KEITH RODNEY MOORE,

Defendant

Before: HONORABLE JOHN A. GIBNEY, JR.
United States District Judge

Day I (pages 1 - 151)

July 18, 2022

Richmond, Virginia

GILBERT F. HALASZ
Official Court Reporter
U. S. Courthouse
701 East Broad Street
Richmond, VA 23219

APPEARANCES

Erik Sean Siebert, Esq.
Shea Matthew Gibbons, Esq
Richard Cooke, Esq.
Assistant United States Attorneys
For the United States

Laura Jill Koenig, Esq.
Amy L. Austin, Esq.
Assistant Public Defenders

The Defendant
In his own proper person

1 THE CLERK: Case number 3:21 CR 42.

2 United versus Keith Rodney Moore.

3 Mr. Shea Gibbons, Erik Seibert and Richard Cooke
4 represent the United States.

5 Ms Laura Koenig and Amy Austin represent the
6 defendant.

7 Are counsel ready to proceed?

8 MR. GIBBONS: United States.

9 MS KOENIG: Defense is ready, Your Honor.

10 THE COURT: All right. So we are here today on
11 really I guess two motions in this case. One is a
12 motion to suppress some evidence. And I believe I have
13 already heard all the evidence on that. The other is a
14 motion to dismiss the indictment because of what the
15 defendant alleges is a pattern of, I guess, unlawful
16 enforcement of the traffic laws against
17 African-American drivers.

18 There are -- I have received some briefs on this,
19 and I appreciate that. Thank you.

20 I have also gotten an exhibit list and witness
21 list for both the government and Mr. Moore.

22 I think on this motion to dismiss Mr. Moore bears
23 the burden of proof, so we will move ahead with his
24 evidence. But before we do that, there are motions to
25 exclude Mr. Moore's expert testimony. There are two

1 motions. There is a sort of a standard Daubert motion
2 about Dr. Coston. Dr. Coston is some sort of expert in
3 social matters at VCU and has done a statistical
4 analysis of traffic stops in the Richmond area from
5 which he appears to conclude that the police over
6 enforce laws against African-American drivers.

7 And the challenge to Dr. Coston is that Dr. Coston
8 does not use proper statistical methods to reach a
9 reliable result about whether the police have
10 unlawfully targeted African-American drivers. And,
11 candidly, it is all pretty complicated stuff dealing
12 with chi factors and progression analysis and things
13 like that. I certainly think that the way I need to
14 resolve that is to hear what Dr. Coston says, to hear
15 Dr. Coston's explanation of what Dr. Coston did. And
16 then to hear I guess Dr. -- the government expert, Dr.

17 MS KOENIG: Smith.

18 THE COURT: Dr. Smith. How could I forget that
19 name? To hear Dr. Smith's criticism of it. And I
20 guess Dr. Coston has seen Dr. Smith's criticism. And I
21 guess probably should be prepared to address those as
22 he goes through his testimony. And then Dr. Smith, we
23 could have a standard debate like we would have in a
24 civil case about the legitimacy of an expert.

25 So, here is how I think that needs to play out.

1 Since I need to hear the testimony in order to
2 decide whether it is reliable under Daubert, I think it
3 probably makes sense to hear Dr. Coston's testimony and
4 Dr. Smith's testimony in the ordinary course of things.
5 And then your argument at the end, you could tell me
6 whether I ought to toss out the testimony of Dr. Coston
7 because he uses a chi factor or the Cramer V, whatever
8 it is that the government contends is wrong. And then
9 Ms Koenig and Ms Austin can respond to that. That is
10 how I propose to address that.

11 There is a different issue with respect to
12 Dr. Chiles. Dr. Chiles is an expert who is offered
13 because he has knowledge that is useful to The Court.
14 An expert is a witness who is qualified as an expert by
15 knowledge, skill, experience, training and education,
16 Such an expert can testify in the form of an opinion or
17 otherwise. So I think this is an otherwise. It is
18 little hard to tell what Dr. Chiles is proposing to say
19 because he characterizes the expert witness disclosure
20 as brief, which is understating.

21 But, I mean, it seems to me there are couple
22 problems with the disclosure of Dr. Chiles in the case.
23 One is that the disclosure was late. Two is that the
24 disclosure really doesn't say under Rule 16 -- Rule 16
25 requires the defendant offering an expert to disclose a

1 written summary of any testimony the defendant intends
2 to use. Well, that is not what this is. That rule
3 exists for two reasons. One is to sort of limit the
4 scope of the expert's testimony. The other is to allow
5 the government to get ready to cross-examine him. If I
6 looked at that thing and if Dr. Chiles got up and
7 testified today I would have a hard time figuring out
8 what he was -- in advance -- what he was going to talk
9 about. I mean, apparently he is going to say that
10 Richmond has a long history of segregation and racism.
11 And that is -- I probably could probably take judicial
12 notice of that.

13 But, the third question is this. What does
14 Dr. Chiles -- what does his opinion or his knowledge
15 about things that happened in the distant past have to
16 do with the Richmond City's enforcement of laws today?
17 There was a time -- and it was not all that long ago --
18 pretty much when I first came to Richmond -- that there
19 were hardly any African-American officers and there was
20 a different world then. But I am not sure we are there
21 now. We have an African-American police chief, mayor,
22 African-American mayor, majority of City Council for
23 many years. So I am just a bit flummoxed as to the
24 relevance of it.

25 Do you want to address any of those points?

1 MS KOENIG: Yes, Your Honor.

2 THE COURT: Let me just say that if I decide that
3 this guy can testify the government needs an
4 opportunity -- you know, his disclosure was so late in
5 the game the government needs an opportunity to --
6 well, maybe they will tell me they don't want an
7 expert. But the government deserves an opportunity to
8 some sort of an expert on history of their own.

9 MS KOENIG: That is fine, Your Honor. As I said
10 in the -- this is in ECF number 86. The reason that we
11 are calling Dr. Chiles is that this court knows I tried
12 to get a copy of what the Richmond Police Department
13 holds out as a 1977 police precinct neighborhood plan.
14 And any amendments updates to that plan that would help
15 us and The Court determine why it is that we have three
16 of the four police precincts in the City of Richmond
17 that are devoted to the black parts of town.

18 In response to that subpoena the Richmond Police
19 Department indicated that they don't have a copy of the
20 1977 precinct plan, didn't have any other documents
21 that were responsive, aside from essentially a printout
22 of their Richmond Police Department history that is
23 available on the Richmond Police Department's web site,
24 as well as a year book history which had not much more
25 detail than that.

1 So because of that, the reason that we are calling
2 Dr. Chiles is that this Court remembers on the July 26,
3 2021 hearing --

4 THE COURT: I remember like it was yesterday.

5 MS KOENIG: Part of what we introduced at that
6 hearing was the University of Virginia, the public
7 school, the public, Weldon School of Public Service.
8 Has created a racial dot map that plots out according
9 to census data each individual response by race, and
10 the data throughout the country. But what we submitted
11 on July 26 of 2021 was exhibit R-2, which is the
12 plotting data for the Richmond area.

13 THE COURT: Shows where, essentially how
14 segregated the community is.

15 MS KOENIG: Correct.

16 What Dr. Chiles is going to testify about is how
17 it got that way because that was not by happenstance at
18 all. And the other part of what he will be able to
19 tell us about is that around 1977 there was a concerted
20 effort by the council members in the City of Richmond
21 to start policing the black neighborhoods because the
22 City Council believed that it was very important
23 financially for the City to survive financially after
24 decades of white flight to be able to police the black
25 neighborhoods so that white people felt safe coming

1 back to the community.

2 So those are to the areas that I anticipate he
3 will testify about.

4 I have provided, because Dr. Chiles has written
5 about this extensively, I provided those articles. As
6 I indicated to The Court in ECF 86, the timing -- I am
7 not -- frank to say it was not a lot of notice for the
8 government, but the timing was, we did not intend to
9 call Dr. Chiles until we knew, or even find Dr. Chiles
10 for that matter, until we knew that the Richmond Police
11 Department did not have any data related to the 1977
12 precinct plan.

13 THE COURT: It seems a lot of problems in this
14 case come from the fact that the Richmond Police
15 Department doesn't have much data and didn't provide it
16 to you without pulling some teeth.

17 MS KOENIG: Correct.

18 So to the extent that that explained the timing of
19 our disclosure, I tried to get it out of the government
20 as fast as I could. And so that is where we are at,
21 Your Honor.

22 THE COURT: And as I recall, the Arlington Heights
23 case a historical review of things can be relevant in
24 determining whether there is a current -- there is
25 current racial animus.

1 MS KOENIG: Absolutely, Your Honor. Because of
2 the -- this case relies on not only the traffic stop
3 data, in terms of how many black people are stopped
4 versus white people are stopped, and how many black
5 people are arrested versus searched, things like that.
6 It relies not only on that data, but also where the
7 stops are happening specifically as it relates to the
8 police precincts. So this information I think is
9 highly relevant for this Court to consider, and
10 absolutely Arlington Heights does enumerate the history
11 as one factor that The Court explicitly shall consider.

12 Now, The Court obviously after hearing the
13 testimony will decide what weight to give the
14 testimony, or whether Dr. Chiles is credible, et
15 cetera. But those are factors that determine the
16 significance that The Court places, if any, on the
17 testimony, not admissibility.

18 THE COURT: Let's hear from whoever is going to
19 talk for the government.

20 Again, you all are welcome to not wear your mask.

21 MR. GIBBONS: Thank you, Your Honor. A few points
22 on that, Your Honor.

23 I took --

24 THE COURT: Here is what I don't want to have
25 happen in this case is to exclude something that is

1 marginally relevant and then at some later stage to
2 have a challenge to the conviction because I didn't
3 give them a chance to put that in. That is what I am
4 concerned about.

5 MR. GIBBONS: That is a valid concern, Your Honor.
6 That is a little separate from the issues that are
7 before The Court today.

8 I will tell The Court, I spent the weekend, hardly
9 saw my kids, so I could review all 568 pages that were
10 disclosed in relation to Dr. Chiles. The simple
11 statement that Ms Koenig just said, in 1977 a decision
12 was made to over enforce black areas to make whites
13 feel safe, that was not apparent in any of the 568
14 pages that I reviewed. I don't know why that couldn't
15 have been disclosed in the first place.

16 THE COURT: Well, assuming, I guess he is -- the
17 problem with Dr. Chiles is that they don't really say
18 what he is going to say. The rule is quite clear that
19 we have to give a summary of the testimony. And it
20 doesn't say, well, you can go look it up in the library
21 and read all of the things he said were written. You
22 can do that, but that is not what the rule says. The
23 rule says you have to give a written summary of what he
24 is going to say. And that is not what that is. That
25 is not what that disclosure is.

1 This is how I am going to deal with it. I hate to
2 do this because I would like to have the case resolved
3 before I die or retire, whichever comes first. Death
4 probably is coming before I retire. But I will keep
5 the record open at the end of this hearing. Dr. Chiles
6 will not testify today. Is he here?

7 MS KOENIG: Yes.

8 THE COURT: In the room?

9 MS KOENIG: He is outside in the anteroom.

10 THE COURT: Well, all right.

11 Bring him in at some point and I will apologize to
12 him about that. I will take the heat for it. But,
13 then you will have to, Ms Koenig, you will have to
14 prepare a report that contains a summary of what he is
15 going to say. He has got to say this is what the
16 summary from Dr. Chiles is going to say. It's not just
17 enough to say Dr. Chiles is going to say that in 1976
18 to '77 the City was white people coming back to town.
19 You have got to bring in details so that the government
20 can then do two things; one is they can figure out how
21 to cross-examine him, and the other is they can decide
22 whether they need to have an expert of their own. I
23 mean, as I recall, Ed Ayers at the University of
24 Richmond is quite an expert on Richmond segregation.
25 And he probably has something to shed on this. I

1 remember very well that that was -- I lived here. I
2 moved here in '76 into an area of the City that had
3 been annexed from Chesterfield County. And I remember
4 the many, many discussions of that, and it was a pretty
5 fraught political environment then.

6 So, how long will you need to come up with a
7 summary, a true summary, of his testimony?

8 You ought to be pretty much ready for it if you
9 have him ready to testify today.

10 MS KOENIG: It don't think it would take him long.
11 I just need to know the schedule as to when he has
12 time.

13 THE COURT: I can't understand you. What?

14 MS KOENIG: I don't think it will take him long,
15 but I need to know his schedule about how many days it
16 will take for him to have time in his schedule to write
17 it out.

18 If I could consult with him very briefly I could
19 have an answers for The Court.

20 THE COURT: Why don't you go out and ask him that,
21 then. And bring him back in.

22 MR. GIBBONS: Would you like me to take a seat?

23 THE COURT: Thank you.

24 MS KOENIG: Your Honor, Dr. Chiles.

25 THE COURT: Dr. Chiles, stay right there.

1 MS KOENIG: Dr. Chiles anticipates being able to
2 prepare such a report by next Wednesday.

3 THE COURT: Next Wednesday.

4 MS KOENIG: Yes, Your Honor.

5 THE COURT: All right.

6 Well, let's give him a little more time than that
7 to do that.

8 Dr. Chiles, unfortunately we have got kind of a
9 procedural problem with your testimony today. I
10 appreciate you coming up here to testify. Do you live
11 down in Norfolk?

12 THE WITNESS: Virginia Beach.

13 THE COURT: I appreciate you coming up from the
14 Beach to be here. I hope you will be able to get back
15 before traffic jams up. But I want to -- you will
16 need to prepare a summary of your testimony, and you
17 think you can do that in 14 days?

18 THE WITNESS: Yes.

19 THE COURT: All right.

20 Do that in 14 days. And give that to Ms Koenig,
21 and she then will help you get it into proper form.

22 So, I will give you 21 days to file that, Ms
23 Koenig.

24 MS KOENIG: Yes, Your Honor.

25 THE WITNESS: So you have 14 days to get it to

1 her, and then she can massage it into correct form.

2 Okay?

3 MS KOENIG: Thank you.

4 THE COURT: Thank you very much for coming. You
5 are a professor at Old Dominion?

6 THE WITNESS: Yes, sir, I am.

7 THE COURT: The Monarchs. What exactly do you
8 teach there?

9 THE WITNESS: I teach American history,
10 African-American history, and --

11 THE COURT: Great. Well, I am glad you do that.

12 I look forward to hearing your testimony at some
13 point in the future. Thank you very much for coming,
14 sir.

15 THE WITNESS: Thank you.

16 THE COURT: You are excused. You may leave.

17 THE WITNESS: Okay.

18 Okay.

19 THE COURT: Now, then Mr. Shea, does that take us
20 to -- today is the 18th. Her summary under Rule 16 is
21 due on August 8. Do you think that by August 22 you
22 can review that and decide whether you need to get an
23 expert of your own?

24 MR. GIBBONS: Yes, Your Honor, that should be
25 fine; yes, sir.

1 THE COURT: By August 22 your job is to let us
2 know whether you need -- whether you need an expert of
3 your own. Also you could file a second Daubert motion
4 about him on August 22. And then we will get together
5 and schedule a time for Dr. Chiles' testimony, and it
6 shouldn't take more than an hour or so, should it?

7 MS KOENIG: I would think between cross and if the
8 government has an expert, probably no more than two
9 hours.

10 THE COURT: Okay. That will be enough time. All
11 right. So now let's move on to the meat of things here
12 today.

13 We have the, I have got the -- the Government now
14 has -- so, given that we don't have Mr. Chiles, is
15 Mr. Hush going to need to testify?

16 MS KOENIG: Your Honor, I would simply designate
17 Mr. Hush as our advisory witness to move to and from
18 the courtroom. I notified the Government of this. I
19 don't think they have the equivalent of that that they
20 intend to designate, but the Government and I have also
21 agreed that both Dr. Coston and Dr. Smith can be around
22 for each other's testimony.

23 THE COURT: That is fine. Are they both in here
24 now?

25 MS KOENIG: Dr. Coston is not. Yes.

Coston - direct

17

1 THE COURT: Which one is he? There he is. Okay.

2 Well, go bring Dr. Coston in.

3 MS KOENIG: Thank you, Your Honor.

4 THE COURT: And so, my question was a different
5 one. Is Mr. Hush going to testify?

6 MS KOENIG: I don't know yet, Your Honor. Depends
7 on The Court's ruling on a couple different matters
8 that can be introduced through Dr. Coston.

9 THE COURT: Have a seat, Dr. Coston.
10 Are you going to call Dr. Coston?

11 MS KOENIG: I call Dr. Coston, Your Honor.

12 THE COURT: All right.

13 Raise your right hand and face the clerk.

14 ELI COSTON

15 AFFIRMED AND TESTIFIED AS FOLLOWS:

16 DIRECT EXAMINATION

17 BY MS KOENIG:

18 Q Doctor, can you state your name for the record,
19 please?

20 A Dr. Eli Coston.

21 Q Can you spell the last name for us?

22 A C-O-S-T-O-N.

23 Q How are you employed?

24 A I am an assistant professor at Virginia
25 Commonwealth University.

1 Q Do you hold a PhD in sociology from stoney Brook?

2 A Yes, I do.

3 Q When did you will get that degree?

4 A I received that degree in 2017.

5 Q Before that, do you have two masters of art and a
6 bachelor of arts?

7 A Yes, I do.

8 Q Do you have any specialty research area?

9 A I have specialty research areas in statistics and
10 methodology, race and gender, as well as the criminal
11 legal system.

12 Q How long have you been studying statistical
13 analysis?

14 A I have been studying statistical analyses since my
15 undergraduate degree, but primarily during graduate
16 school and subsequently.

17 Q How long have you been studying research
18 methodology?

19 A The same amount of time.

20 Q Have you published articles that require
21 specialized knowledge of statistical analysis and
22 research methodology?

23 A Yes.

24 Q I want to turn your attention, if you can look in
25 white binder in front, specifically what has been

1 marked defendant's exhibit one. Do you recognize what
2 is listed in defendant's exhibit one?

3 A I do.

4 Q What is that?

5 A My curriculum vitae.

6 Q Is that something that you provided to us to
7 demonstrate what it is that you have done in the terms
8 of publication and teaching, et cetera?

9 A Yes.

10 MS KOENIG: Your Honor, I move to admit
11 defendant's exhibit one.

12 MR. GIBBONS: No objection.

13 THE COURT: All right. Admitted.

14 BY MS KOENIG:

15 Q Do some of the articles you have published require
16 specialized knowledge of statistical analysis and
17 research methodology as listed in the C V?

18 A Yes, they are.

19 Q Have you given presentations that require
20 specialized knowledge about statistical analysis and
21 research methodology?

22 A Yes, I have.

23 Q Are those also listed in your C V?

24 A Yes, they are.

25 Q Have you taught courses at VCU as well as other

1 colleges on statistical analysis and research
2 methodology?

3 A Yes.

4 Q Do you hold the position as peer reviewer of
5 articles that others publish that require your
6 specialized knowledge of statistical analysis and
7 research methodology?

8 A Yes.

9 Q Are some of those listed in your C V as well?

10 A Yes.

11 MS KOENIG: I move to qualify Dr. Coston as an
12 expert in the area of statical analysis and research
13 methodology?

14 THE COURT: All right.

15 Any cross examination.

16 MR. GIBBONS: No, Your Honor.

17 THE WITNESS: All right.

18 Do you have any objection?

19 MR. GIBBONS: No, Your Honor.

20 THE COURT: All right. He is recognized as an
21 expert on statistical analysis.

22 BY MS KOENIG:

23 Q Let's start with the data that you analyzed in
24 this case. Specifically what entity provided us the
25 data that you analyzed?

1 A The Virginia Department of State Police.

2 Q Who had collected that data at first?

3 A Well, that is compiled by the Virginia Department
4 of State Police from individual localities. So the
5 Richmond data coming from the Richmond Police
6 Department.

7 Q Why did the Richmond Police Department collect
8 this data?

9 A In compliance the Virginia Community Policing Act
10 data is collected about information related to stops,
11 like the characteristics of the driver, race, age,
12 gender, as well as characteristics of the stop itself
13 what occurred during those stops. So, why the stop
14 occurred. What the outcome of the stop was. What
15 particular code section was violated, whether searches
16 or arrests occurred during those stops.

17 Q You mentioned that Virginia Community Policing Act
18 that you just described?

19 A Yes.

20 MS KOENIG: Your Honor, I am asking The Court to
21 take judicial notice of what was submitted in
22 defendant's exhibit 3, which is the Virginia Criminal
23 Code or Criminal -- Virginia code, 52-30.2.

24 THE COURT: All right.

25 I don't know that I need to take judicial notice

1 of it, but clearly it is a statute.

2 MS KOENIG: Thank you.

3 BY MS KOENIG:

4 Q Under the Community Policing Act, Dr. Coston, do
5 local --

6 MR. GIBBONS: Excuse me, Your Honor. Could we
7 clarify that is the 2020 version.

8 MS KOENIG: I'm sorry. It is the 2020 version
9 Your Honor.

10 THE COURT: All right. Exhibit 3 is the 2020
11 version?

12 MS KOENIG: It is, Your Honor.

13 BY MS KOENIG:

14 Q Dr. Coston, was there a later change in July of
15 2021 that required police departments moving forward
16 from July of 2021 to collect additional data beyond
17 what you just described?

18 A Yes, there is.

19 Q So we were operating on the stats that we were
20 looking at from July of '20 to December 6 of '20; is
21 that right?

22 A That's correct.

23 Q Okay.

24 THE COURT: Is that the date he was stopped?

25 MS KOENIG: December 5th is the time that the stop

1 initially occurred and it bled over into the morning
2 hours of the 6th, Your Honor.

3 BY MS KOENIG:

4 Q Let's turn to the data itself. We just, I think I
5 just spilled the bag, but what is the date for each of
6 the data you analyzed?

7 A July 1st to December 6.

8 Q What year?

9 A Of 2020.

10 MS KOENIG: Was the data you analyzed only for
11 traffic stops?

12 A Yes.

13 Q How many traffic stops did the Richmond Police
14 Department report conducting during that time period?

15 A 2,578.

16 Q Before you conducted specific analyses of the data
17 did you omit some of the stops before refining
18 analysis?

19 A Yes.

20 Q Specifically did you omit locations that were
21 ultimately outside of the Richmond Police Department's
22 jurisdiction?

23 A Yes, I did.

24 Q How did you determine which stops were outside of
25 the jurisdiction?

1 A So it was a multi-stop process. Initially what is
2 reported on the data is actual street locations or
3 intersections. Sometimes, you know, what block of a
4 particular street. That information was called
5 Geocodio that converts that text data --

6 THE COURT: Spell that.

7 THE WITNESS: G-E-O-C-O-D-I-O.

8 THE COURT: Tell us what Geocodio is.

9 THE WITNESS: So essentially it takes the street
10 locations. For example, if you have an individual
11 street address and it converts that into latitude and
12 longitude coordinates. Then you can later use for
13 mapping in, for example, a graphical information
14 systems program. Geocodio also provides information
15 about the reliability of the geographic coordinates it
16 provides. So, ranging from zero to one. For those
17 that were less than .6, so there was indicated by
18 Geocodio only kind of moderate certainty about the
19 latitude and longitude coordinates provided.

20 Those were checked by an intern at the Public
21 Defender's office and verified and/or corrected.
22 Subsequent to that I also overlaid all of the
23 coordinates, both the corrected coordinates and the
24 original coordinates provide by Geocodio on to a map.
25 That was over laid with the Richmond Police

1 Department's police precincts.

2 So there were some that still fell outside of
3 those boundaries, and those I manually recoded in order
4 to -- because there was sufficient information. But,
5 for example, Broad and Harrison.

6 BY MS KOENIG:

7 Q Maybe let's take a minute just for a second.

8 I want to show you, if we can provide, Ms Tuck,
9 the witness what is marked defendant's exhibit 14. I
10 have it up on my screen here.

11 Should be connected.

12 There we go.

13 Dr. Coston, do you recognize what I am showing you
14 on this screen?

15 A Yes.

16 Q What is this?

17 A This is the Excel file that contains the data for
18 the traffic stops.

19 Q Was this the specific exhibit that is in
20 defendant's exhibit 14, is this your final sample?

21 A Yes.

22 MS KOENIG: Your Honor, I move to admit
23 defendant's exhibit 14.

24 MR. GIBBONS: Your Honor, we have an objection to
25 this.

1 THE COURT: All right. What is that?

2 MR. GIBBONS: We don't know what version of the
3 RPD stop data is contained in this document. At what
4 stage of the RPD -- we have done our witness first.
5 There were separate stages to the quality control
6 process. We are not sure at what stage.

7 THE COURT: I'm sorry. Separate stages to the
8 quality control process of what? Of pulling this
9 information together?

10 MR. GIBBONS: Yes, Your Honor.

11 THE COURT: So you don't know whether this is the
12 final information or not.

13 MR. GIBBONS: That's correct, Your Honor.

14 THE COURT: What do you say about that?

15 MS KOENIG: Your Honor, let's maybe, let me talk
16 to Dr. Coston first about something else.

17 Dr. Coston, were you aware that the defense had
18 subpoenaed the Richmond Police Department for
19 information and reports on all traffic stops that
20 happened from July of 2020 to December 6 of 2020?

21 THE WITNESS: Yes.

22 BY MS KOENIG:

23 Q And did we discuss that the subpoena was going to
24 ask for individualized police reports for each of those
25 stops?

1 A Yes.

2 Q I want to show you what has been marked
3 defendant's exhibits 15, which, Your Honor, is ECF 52,
4 which is already in the record.

5 But, the subpoena, Dr. Coston requested copies of
6 net viewer event information, net viewer event unit,
7 and net viewer chronology records for all traffic stops
8 by the Richmond Police Department from July 1st, 2020
9 through December 5 of 2020; is that right?

10 A Yes.

11 Q Is that in fact what the Richmond Police
12 Department supplied us?

13 A No, that is not what I received.

14 Q Did we receive a series of spreadsheets from the
15 Richmond Police Department that had the columns, the
16 column information that is in defendant's exhibit 14?

17 A Yes.

18 Q Did you simply take -- and each spreadsheet was
19 defined by a period of time; is that right?

20 A That's correct.

21 Q You received one spreadsheet for three months and
22 then individually separate spreadsheets for October,
23 November, and December?

24 A The December contained more information than just
25 December, but yes, that is correct.

1 Q The information that you have in defendant's 14,
2 aside from the columns that have the latitude
3 longitude, accuracy, and corrected, and control number,
4 did the exhibit compilation of what you put into one
5 spreadsheet rather than four?

6 A The control numbers were initially indicated on
7 this spreadsheets that we received, but the latitude
8 longitude, accuracy, and corrected were added
9 subsequent.

10 Q By the --

11 THE COURT: Let me see if this is correct. You
12 requested information, all sorts of information about
13 the traffic stops from the Richmond Police Department.

14 MS KOENIG: That is right.

15 THE COURT: And the Richmond Police Department
16 supplied you with some of that information.

17 MS KOENIG: Correct.

18 THE COURT: And the information that you got from
19 the Richmond Police Department was placed in to this
20 spreadsheet?

21 MS KOENIG: Correct.

22 THE COURT: Who did that?

23 Did you do that, or did you the Public Defender's
24 Office do that?

25 MS KOENIG: I will break that down. I will break

1 it down.

2 So, Dr. Coston, if we can look at defense exhibit
3 14, specifically column B. Tell us what column B is.

4 THE WITNESS: Column B is location information
5 that was provided by the Richmond Police Department
6 initially. In some cases this represents an exact
7 address, and in some cases an intersection. And in
8 other cases a block of a street.

9 BY MS KOENIG:

10 Q For example, if we look at entry number two on
11 defendant's exhibit 14 we see that -- what is this
12 intersection?

13 A Oliver Hill Way and Hospital Street.

14 Q So what did we work as a defense team to do, to
15 take the location information to generate the latitude
16 and longitude by columns that are just to the right of
17 the location column?

18 A That location, the initial location is provided by
19 the Richmond Police Department were sent to Geocodio.
20 What they sent back is in the following four columns.

21 THE COURT: Let's cut to the quick on this. Rule
22 1006 allows the proponent to use, produce a summary
23 of -- I believe -- the records produced by the Richmond
24 police were voluminous, I take it.

25 MS KOENIG: They were.

1 THE COURT: How voluminous were they?

2 MS KOENIG: There were 2,578 stops from the time
3 period we are looking at.

4 THE COURT: You got a report on each one?

5 MS KOENIG: We had this data that is reflected in
6 defendant's exhibit 14.

7 THE COURT: All right.

8 So, Mr. Shea, do you want to be heard on that?

9 MR. GIBBONS: We still don't know what version
10 this data came from, the corrected or --

11 THE COURT: This was produced to you in advance,
12 and you have had an opportunity to examine it.

13 MR. GIBBONS: There is two issues, Your Honor;
14 there is an authentication issue, which is so far
15 unresolved. And then there is an issue of what shape
16 the data was in.

17 THE COURT: Well, if you have questions about
18 whether the data is accurate, that is something that
19 you could have looked at, the charts, information,
20 beforehand and compared it. And you can cross-examine
21 him about it. We have -- I am sure you have got an arm
22 full of inaccuracies you are going to point out to me
23 at some point.

24 MR. GIBBONS: That is true, Your Honor.

25 THE COURT: Well, all right.

1 MS KOENIG: Thank you, Your Honor.

2 THE COURT: Fourteen is admitted.

3 BY MS KOENIG:

4 Q So, Dr. Coston, once you had taken -- so the
5 latitude longitude you have explained came from
6 Geocodio, is that right?

7 A That is right.

8 Q What did you make as the information in the
9 accuracy score that is reflected in column E?

10 A So the accuracy score ranges from zero,
11 essentially no accuracy; to one, high accuracy.

12 And so scores that had lower accuracy, less than
13 .6 those were validated by an intern in the Public
14 Defender's Office. And I also engaged in additional
15 verification of the latitude longitude information.

16 Q When there was a correction noted, was that
17 correction noted in columns G and L for the latitude
18 and longitude?

19 A Yes, it was.

20 Q So, the original Geocodio latitude longitude is
21 reflected in column C and D; is that right?

22 A That's correct.

23 Q And the corrected latitude longitude is in column
24 G and H?

25 A That's correct.

1 Q Right. Some of the information in the corrected
2 columns came from the intern at the Federal Public
3 Defender's Office and some came from you?

4 A That's correct.

5 THE COURT: Let me ask you this.

6 Did you rely on this data in forming the opinions
7 you were about to offer us in this case?

8 THE WITNESS: Yes, I did.

9 THE COURT: Is this the sort of facts or data that
10 people in your expertise routinely organize in forming
11 an opinion on this kind of subject?

12 THE WITNESS: This type of data along with other
13 types of data, yes.

14 THE COURT: I understand there are all kinds of
15 data, but this is acceptable in your field of
16 expertise?

17 THE WITNESS: Yes.

18 THE COURT: All right.

19 BY MS KOENIG:

20 Q Thank you, Your Honor.

21 Dr. Coston, you were talking about the things that
22 you had omitted. Once you had a corrected sheet, what
23 did you omit from the total number of stops that you
24 analyzed?

25 A Eighty-one stops were omitted. And those fell

1 outside of the Richmond Police Department's' precinct
2 boundaries. Most of those occurred in Chesterfield.

3 Q When you deleted something, that is something that
4 you yourself manually checked to see if in fact it was
5 not within the City limits; is that right?

6 A That's correct. And I verified it with the
7 location that was provided by the Richmond Police
8 Department, as well as the latitude and longitude.

9 Q When talking about the control numbers here, each
10 one of these stops has a control number assigned to it,
11 right?

12 A That's correct.

13 Q Why?

14 A Control numbers are essentially a record-keeping
15 device. So that every individual entry is entered one
16 time.

17 Q Does it also allow for later questioning
18 comparisons so we can look at a particular stop if need
19 be?

20 A Yes.

21 Q So did you prepare a spread sheet of the control
22 numbers of the stops that you excluded --

23 A Yes.

24 Q -- from this report, or from this spreadsheet?

25 A Yes.

1 Q I want to so you show you what has been marked
2 defendant's exhibits 18.

3 Can you see exhibit 18?

4 A Yes.

5 Q Dr. Coston, please tell us what is in this exhibit
6 18.

7 A So this is a list of the control numbers that were
8 excluded due to being outside of the jurisdictional
9 boundaries of the Richmond Police Department.

10 Q Did you prepare this list in response to a report
11 we received on Friday from the government --

12 A Yes.

13 Q -- questioning some of the counting or the
14 accuracy of some of the information; is that right?

15 A Yes.

16 Q Did you go back and double check these things over
17 the weekend?

18 A Yes.

19 Q Did you confirm that there are 81 stops that you
20 still found remember outside of the City limits that
21 you excluded from the analysis?

22 A Yes, I did.

23 Q Just because a stop is outside of the City limits
24 does it mean that the Richmond Police Department did
25 not have jurisdiction to do the stop?

1 A No. Not necessarily. The police are typically
2 able to pursue outside of their jurisdictional bounds,
3 and for this reason I conducted the analysis both with
4 these stops included and with the stops excluded. And
5 it didn't change the overall findings of conclusions.
6 The statical significance of results remained the same.

7 Q Okay.

8 Give us some examples of same of the stops that
9 were excluded?

10 A Yes. So as you can see here, for example, many of
11 these stops, stop 582 for example, I believe occurred
12 at the Powhite toll booth, which is just outside of the
13 Richmond Police Department jurisdiction boundary.

14 THE COURT: What?

15 Q Powhite Parkway toll booth?

16 A Yes.

17 Q That stop --

18 THE COURT: Downtown here?

19 THE WITNESS: No.

20 THE COURT: Over --

21 THE WITNESS: Farther south.

22 THE COURT: Over by the Midlothian Turnpike.

23 THE WITNESS: Yes.

24 THE COURT: So the Richmond police -- that is over
25 there by Hull Street.

1 THE WITNESS: This is where, there is where it was
2 noted in terms of the specific location. This is what
3 the Richmond Police officer wrote.

4 In many of these instances, but, again, that is
5 outside of the jurisdictional boundaries, so I excluded
6 those particular cases.

7 BY MS KOENIG:

8 Q Because it's -- so it's possible that stops were
9 valid traffic stops in terms of jurisdiction by the
10 Police Department, right?

11 A That is possible.

12 Q But because we don't have further details about
13 the stops themselves, who initiated it, where it was
14 initiated, you just chose to exclude it for the
15 validity of the data?

16 A That's correct.

17 Q At a particular type of analysis that you
18 conducted, the chi-square analysis that you did, did
19 you exclude --

20 THE COURT: The what analysis?

21 MS KOENIG: The chi-square analysis, Your Honor.

22 THE COURT: All right.

23 BY MS KOENIG:

24 Q Did you exclude any particular races from the
25 final analytical sample?

1 A Yes. Asian, native American and drivers of other
2 races were excluded from the final analysis due to
3 there being too few drivers who were stopped during the
4 time period of those races to be able to conduct that
5 type type of statistical analysis.

6 THE COURT: Do you want to admit exhibit 18?

7 MS KOENIG: I do, Your Honor.

8 THE COURT: All right.

9 BY MS KOENIG:

10 Q Dr. Coston, let's first have you tell us briefly
11 about what a chi-square analysis is.

12 A So, a chi-square analysis examines the
13 relationships between two variables.

14 THE COURT: C-H-I?

15 THE WITNESS: Yes.

16 THE COURT: A Greek letter.

17 THE WITNESS: Yes. Yes.

18 THE COURT: Okay. Go ahead.

19 THE WITNESS: So, chi-square analysis examines the
20 relationship between two variables for statistical
21 significance.

22 BY MS KOENIG:

23 Q Why was the chi-square analysis the most
24 appropriate statistical test to use on the data set
25 that we have?

1 A So, this was the most appropriate analysis for a
2 few reasons.

3 Firstly, these are both -- many of the analyses
4 contains what we call categorical variance. Meaning
5 that they fall into a category instead of being, for
6 example, on an interval or ratio scale.

7 THE COURT: What?

8 THE WITNESS: So, for example, interval level data
9 occurs at regular intervals versus being in a category.
10 So numerical data versus categorical data.

11 BY MS KOENIG:

12 Q Can you give us an example, Dr. Coston?

13 A Sure. So, for example, interval or ratio data
14 might be something that we think of as temperature.

15 THE COURT: As what?

16 THE WITNESS: Temperature. Like the temperature
17 outside, for example. That would be interval level
18 data.

19 THE COURT: What the temperature is every hour.

20 THE WITNESS: Yes.

21 These are merely categories. Black drivers or
22 white drivers. Those aren't inherently ordered or
23 numbered. In terms of analysis they are assigned a
24 number to do that actual statistical analysis, but they
25 are categories themselves. So a chi-square test is

1 appropriate for analyzing this type of categorical data
2 to determine the relationship between two different
3 variables.

4 BY MS KOENIG:

5 Q Tell us in terms of the chi-square analysis why
6 did you ultimately exclude Asian and American Indian
7 drivers with unknown races from the final analytical
8 sample.

9 A So one of the assumptions or rules that needs to
10 be met when conducting a chi-square analysis is that
11 there needs to be minimum of five expected observations
12 in each cell of the analysis. So, in a two-by-two
13 table, for example, there are four different cells.
14 And there needs to be a minimum of five observations
15 that we would expect to see in each of those cells.

16 As you expand the number of categories that you
17 are examining, so, for example looking at race and
18 whether the person, whether the individual was arrested
19 or not. If we are comparing only black and white and
20 arrest, yes and no, that is a two-by-two. Four cells.
21 And a minimum of 80 percent of those cells need to have
22 five expected observations.

23 If you expand that to include drivers that are
24 Asian, native American, and other races, you know have
25 a two-by-five table. And that is ten individual cells.

1 You need to have a minimum of five observations in each
2 of those individual cells. Because of the very small
3 number of Asian, native American, and drivers of other
4 races.

5 Q But unknown?

6 A Yes. Other unknown races. That criteria wouldn't
7 have been met. And so drivers who were Asian, native
8 American and other races or unknown races were excluded
9 from the analysis. Only concerning black and white
10 drivers in terms of that statistical relationship.

11 Q Is that simply how chi-square analysis works?

12 A Yes.

13 Q That is the kind of analysis that you would do in
14 in day-to-day work when you are doing statistical
15 analysis, right?

16 A Yes.

17 THE COURT: Okay.

18 I understand why you didn't include the people.
19 What is it you are trying to figure out from chi-square
20 analysis?

21 THE WITNESS: A chi-square analysis is asking, is
22 there a relationship between these two variables?

23 THE COURT: What does that mean?

24 THE WITNESS: In the example that I just gave,
25 black and white drivers and whether an individual was

1 arrested, for example, is there a relationship between
2 the race of the driver and whether they were arrested
3 or not.

4 THE COURT: So, what I am puzzling with here is
5 what you mean by a relationship. You mean --

6 THE WITNESS: Are these two things related --

7 THE COURT: That is --

8 THE WITNESS: -- in a statistical sense?

9 THE COURT: Let's pretend like I am an English
10 major, which is what I was.

11 So, tell me what it means for them to be related
12 to each other. Does that mean that --

13 BY MS KOENIG:

14 Q Dr. Coston, for a statistical significance that
15 can be found with this chi-square analysis --

16 A Yes.

17 Q -- is there statistical significance, what does
18 that mean?

19 A It means that what we see occurring in the data is
20 more likely than we would expect to find by chance.

21 THE COURT: That is what you would call a
22 relationship.

23 THE WITNESS: Yes.

24 THE COURT: Or if it was less likely, that would
25 be a relationship, too.

1 THE WITNESS: Yes.

2 But if it is what we expect to see by chance, then
3 there is no relationship at all.

4 THE COURT: Like a coin flip. That would be no
5 relationship. But if it turned out that all of the
6 people who got stopped were white, or all the people
7 were African-American, then we would have a pretty
8 strong relationship; is that right?

9 THE WITNESS: Essentially.

10 If we are using a coin flip example it might be
11 better to say that if it is near fifty-fifty then the
12 dice isn't, or the coin isn't loaded, but if we see a
13 strong in one way or the other, then it is loaded.

14 THE COURT: Okay. So if it was -- and what does
15 that relationship tell me?

16 THE WITNESS: In this instance it tells you
17 whether black or white drivers are more likely to be
18 arrested, more likely to be -- have their vehicle
19 searched. Essentially based on the race of the driver
20 what of these various instances that occurred during
21 stops are more likely.

22 THE COURT: All right. Hold on a second while I
23 do this.

24 MS KOENIG: We are going to go through in more
25 detail as we go through each piece.

1 THE COURT: Well, okay. But let me get to what I
2 think is an important issue here. Let's just assume
3 for a second that you were going down Jefferson Davis
4 Highway. I can't remember what it called. Richmond
5 Highway. South Richmond down in Chesterfield County.

6 And that is an economically disadvantaged part of
7 Chesterfield County. Do you know anything about that
8 area?

9 THE WITNESS: I am aware of it. I haven't spent
10 much time there.

11 THE COURT: Well, I have spent my time. And so
12 there are a lot of people driving cars that aren't in
13 very good shape around there. And it seems to me that
14 like people who drive cars that aren't in very good
15 shape are more likely to be stopped than people who
16 aren't because tail lights go out and cracks in the
17 windshield.

18 So how does this -- how does this chi-square
19 analysis account for things that like that?

20 THE WITNESS: So the chi-square analysis doesn't
21 simultaneously account for every single factor that
22 could impact a traffic stop. It is also true that we
23 don't have data on everything that could impact a
24 traffic stop.

25 THE COURT: And it would be almost impossible to

1 get.

2 THE WITNESS: That's correct.

3 But one of the things that was included in this
4 analysis using a chi-square test was to examine reasons
5 for stops. So, for example, equipment. Were people
6 pulled over for reasons related to having faulty
7 equipment? If that was one of the reasons for a stop,
8 I did look at the outcomes related to those stops.

9 THE COURT: So, here is what I think the
10 Government is saying about this.

11 They say there are a lot -- one of the things they
12 say is that there are a lot of reasons why people get
13 stopped. And one of the ways you can tease out the
14 reasons for a stop is through progression analysis.
15 Candidly -- well, can you tell me why it is you didn't
16 do that here?

17 THE WITNESS: Because the data provided wasn't
18 appropriate to a regression analysis.

19 THE COURT: Why is that?

20 THE WITNESS: So, there are also many rules for,
21 just like there are rules to chi-square, there are
22 rules for conducting regression analyses. There are a
23 lot of -- there are in fact many more assumptions made
24 about the underlying data in a regression analysis than
25 there are chi-square analysis. So, for example,

1 assumptions about the normality of the underlying data.
2 That it looks like a bell curve rather than being
3 looking some other way.

4 The assumption that there is not
5 multi-collinearity between --

6 MS KOENIG: What does that mean?

7 THE WITNESS: -- variables in the models. And
8 essentially what that means is that some variables
9 would be related to other variables in the same model.
10 Right.

11 And so given there is also the assumption that
12 there is, that data on most, if not all of those
13 factors involving a stop, are included in the
14 regression model. And that much of that data was asked
15 for and not supplied. I chose the chi-square analysis
16 because that was the appropriate statistical test for
17 the level and type of data that was supplied.

18 THE COURT: So, have you done other studies on
19 statistical studies, on the interaction between police
20 and civilians?

21 THE WITNESS: Yes.

22 THE COURT: Okay.

23 In those other studies did you use chi-square
24 analysis?

25 THE WITNESS: I have used chi-square analysis in

1 some of my published work and regression analysis in
2 others.

3 THE COURT: Okay.

4 BY MS KOENIG:

5 Q Dr. Coston, did you do so when the data set that
6 was before you leant itself to a particular type of
7 analysis?

8 A Yes.

9 Q In this case was it possible for you to do a
10 regression or multi-varied analysis given the data we
11 had?

12 A I do not believe regression analysis would have
13 been appropriate for this data, no.

14 THE COURT: The question was a different one.
15 Was, is it possible? That is what she asked.

16 THE WITNESS: So in statistics, is it possible to
17 run those numbers even if they violate the underlying
18 assumptions of a test? So, you could put those numbers
19 in and you would get a statistic out, but it would not
20 be a reliable test statistic.

21 THE COURT: Okay.

22 BY MS KOENIG:

23 Q And that is the follow-up, Dr. Coston, is that,
24 yes, it is possible, but it would not produce reliable
25 data; is that right?

1 A It would not produce reliable results.

2 Q Okay.

3 THE COURT: Well, let's just sort of in the
4 reality of this case, let's use my example I gave to
5 you earlier. Many of these arrests occurred in areas
6 that are less wealthy than others. And that would make
7 it, it seems to me, possible that there could be cars
8 there that were maybe -- that would get additional
9 police attention because they have inspection problems,
10 lights out, but your analysis doesn't tell us whether
11 the police are looking at the race of the driver or
12 whether the tail light is out.

13 THE WITNESS: Regression analysis also would not
14 tell you that.

15 THE COURT: Well, whether there is a relationship
16 between the stops and the tail light being out. So is
17 that, right? Your analysis wouldn't tell us that.

18 THE WITNESS: Could you repeat the question?

19 THE COURT: Well, your analysis wouldn't tell us
20 whether the -- whether there was a relationship between
21 the number of stops and the number of tail lights that
22 were out.

23 You didn't do that. Didn't run that data. You
24 couldn't run that data.

25 THE WITNESS: Right. Because the police didn't

1 note on their information other than it being an
2 equipment violation or something else. Other reasons,
3 or a traffic violation. There were three categories,
4 the reasons for the stop, equipment, traffic or other.

5 THE COURT: There are a lot of different potential
6 relationships.

7 THE WITNESS: Yes, there are many potential
8 relationships.

9 THE COURT: And the existence of a relationship
10 does not tell us why the police do something. Or does
11 it?

12 THE WITNESS: Are you asking about an individual
13 officer, why an individual officer does something,
14 or --

15 THE COURT: Well, I think --

16 THE WITNESS: -- or more general?

17 THE COURT: I think the theory in this case is
18 that the Richmond Police stopped black people more than
19 they stopped white people.

20 THE WITNESS: Well --

21 THE COURT: And I think the theory is that they do
22 it because they are African-American people.

23 THE WITNESS: So, what we can do with data, what
24 we attempt to do with statistics is to understand large
25 scale patterns. We cannot work backwards from those

1 large scale patterns to say this is why one individual
2 person --

3 THE COURT: You can't say --

4 THE WITNESS: -- did the thing they did.

5 THE COURT: -- that Mr. Moore was stopped because
6 he was an African-American.

7 THE WITNESS: No.

8 THE COURT: And it just happened to work out that
9 everybody who was stopped was an African-American.

10 THE WITNESS: So when we look at large scale
11 patterns what we can say is whether or not black people
12 are disproportionately stopped at higher rates,
13 disproportionately experience adverse outcomes when
14 they are stopped.

15 THE COURT: Okay. Well, let's take -- let's go
16 into that a little farther.

17 It seems to me that it might be a legitimate thing
18 to do for the police to have more officers or greater
19 presence in areas where there is more crime. Do you
20 agree with that? Well, you don't have to agree with
21 that. That is policing technique.

22 THE WITNESS: I do understand that, yes, that is a
23 popular deployment strategy for police, yes.

24 THE COURT: So if they do that wouldn't there be
25 more traffic stops where there are more police driving

1 around?

2 THE WITNESS: Yes. That is part of the deployment
3 hypothesis.

4 THE COURT: If there was more crime in
5 African-American areas of town it would be more police
6 there, right, if that is the strategy they chose. I
7 mean, they could just ignore it, I guess, but I don't
8 think the Richmond Police do that.

9 BY MS KOENIG:

10 Q Dr. Coston, do we know if in fact that assumption
11 is a valid one, that black people are committing more
12 crime?

13 THE COURT: We don't know whether that is valid,
14 but if there is area where there are more calls for
15 police assistance.

16 THE WITNESS: So what we know from the research on
17 this, is that in areas of town that experience more
18 crime they deploy more officers. At the same time,
19 when more officers are deployed to those areas they
20 also end up enforcing a greater degree of laws, so what
21 we see is increases for lower level violations when
22 this occurs. But essentially that creates a feedback
23 loop in which you are sending more officers, because
24 you have more officers observing more crime. Does this
25 have spillover effects to traffic stops, are there more

1 officers looking for traffic stops when they are in
2 areas that they have been deployed to where they are
3 not finding other types of crime? Absolutely.

4 THE COURT: Have you ever read a book called
5 Locking Up Our Own?

6 THE WITNESS: I have not read that book.

7 THE COURT: Well, it is about -- it seems to me
8 that there is sort of a -- there are two interests.
9 One is that I think African-American people have a very
10 legitimate interest in not having the police patrol
11 their area like some sort of police state. Like it
12 is -- like there are cops everywhere picking on them
13 about every little thing they do. The other interest,
14 however, is that people who live in African-American
15 sections of town -- and if you -- excuse me -- I am
16 assuming what I have observed in 50 years living in
17 Richmond -- which is, that there is housing
18 segregation, de facto segregation. But the people who
19 live in African-American sections of town also deserve
20 to have the police protect them from crime. And this
21 case presents to me a conundrum. If you have more
22 police there, you get more tickets. But if you have
23 fewer police there, I guess the thought was when they
24 started defunding the police, that you had more, you
25 were not addressing crime. And Ms Koenig stands before

1 me time and time again and points out to me that the
2 horrible problems caused by adverse childhood
3 experiences. And among those adverse childhood
4 experiences are living in high crimes area where you
5 get up in the morning and sometimes on the way to
6 school you find syringes or you find dead bodies or
7 whatever.

8 MS KOENIG: Your Honor, I think we have some
9 interesting things to bring to The Court that will
10 answers The Court's questions.

11 THE COURT: Well, I ought to let you try the case.
12 You are the lawyer.

13 MS KOENIG: I appreciate the questioning, Your
14 Honor.

15 BY MS KOENIG:

16 Q Dr. Coston, I want to turn your attention to
17 defense exhibit number two. Did you write a report in
18 this case, Dr. Coston?

19 A Yes, I did.

20 Q Is that what is depicted in defendant's exhibit
21 two?

22 A Yes.

23 MS KOENIG: I move for the admission of
24 defendant's exhibit number two?

25 THE COURT: Well, that is hearsay.

1 MS KOENIG: It is his own report.

2 THE COURT: I know it is his report, but it is an
3 out-of-court statement introduced to prove the truth
4 contained in it.

5 MS KOENIG: I am going to point The Court to
6 Federal Rule of Evidence 803.18 which accepts from
7 hearsay evidence that the expert relies on in direct
8 examination and is reliable, as Dr. Coston is about to
9 testify.

10 THE COURT: Well, his report is not information he
11 is relying on.

12 MS KOENIG: If The Court wants to see it, that is
13 fine.

14 THE COURT: I have already seen it. It is in the
15 record in the case, and I have read it.

16 MS KOENIG: Okay.

17 Dr. Coston --

18 THE COURT: You filed it, right?

19 MS KOENIG: I did.

20 THE COURT: Okay. And we have Dr. Smith's report
21 filed as well. I read that as well. I don't think it
22 is technically evidence in the case because it is his
23 out-of-court statement.

24 BY MS KOENIG:

25 Q All right. Fair enough.

1 Dr. Coston, on page one under the area where it
2 says "traffic stop." What was the purpose of including
3 this information in your analysis of the stop here?
4 Why did you talk about whether or not there is evidence
5 that shows that black or white drivers commit more
6 traffic infarctions than others?

7 A So there is often a question about whether we are
8 seeing these differences because there are in fact
9 differences in the driving behaviors of black and white
10 drivers. When we look at many studies they find there
11 are no differences between black and white drivers.
12 New Jersey Turnpike study is a notable exception. It
13 indicated specifically that young black drivers may be
14 more likely to engage in excessive speeding, over
15 15 miles an hour over. But, I think that that the
16 notable difference here is that the New Jersey Turnpike
17 is substantially different than most Richmond City
18 streets. So I don't know that that particular finding
19 extrapolates to traffic data being analyzed, that I
20 analyzed for this case.

21 Q Meaning that ultimately at the end of the day we
22 do not have data that indicates that black drivers in
23 Richmond are more likely to commit traffic infractions
24 than white drivers, right?

25 A No, we do not have that data.

1 Q If we could take my screen down. Thank you.

2 So let's turn now to your analysis, Dr. Coston.

3 If you need to refer to the report let us know.

4 A Okay.

5 Q Let's first look at your summary data. And I
6 believe you are turning to page six of the report to
7 refresh your recollection; is that right?

8 A Yes. My pages aren't numbered, but I believe that
9 is correct.

10 Q Tell us what you found in terms of whether or not,
11 or did you make any determinations about the frequency
12 with which Richmond Police Department was stopping
13 black drivers?

14 A Yes, summary data presents accounts by race of
15 driver, and also out of the total number of stops
16 determines what percentage of those stops were
17 particular races, as well as including in that summary
18 table other select variables that were included in
19 later analyses.

20 Q Let's first talk about the race of the driver.
21 What did you specifically find as it relates to the
22 frequency of black and white drivers being stopped?

23 A So, 77 percent of the drivers stopped in the data
24 analyzed were black. And that means that black drivers
25 were 12.67 times more likely to be stopped than white

1 drivers.

2 Q Go back for that. I think 12.67 relates to the
3 arrest; is that right?

4 A I'm sorry. I was referencing the wrong number
5 there.

6 Yes. That is for arrests. 35.13 times more
7 likely to be stopped.

8 THE COURT: So let me just ask you a question,
9 Ms Koenig. Do you need this report to be in evidence
10 in order to get all these charts into evidence?

11 MS KOENIG: It would be helpful, Your Honor --

12 THE COURT: All right. I will reconsider my
13 ruling and admit it okay.

14 MS KOENIG: Thank you, Your Honor. I have no
15 objection --

16 THE COURT: This report is admitted.

17 MS KOENIG: -- no objection to Dr. Smith's report,
18 Your Honor. I mean for the admission, Your Honor.

19 All right. Let's look at table one then, which is
20 on page six, Dr. Coston. So if we have 1,925 black
21 drivers that were stopped and 354 white drivers that
22 were stopped, tell us what you were just telling us
23 about what that means about the likelihood that black
24 drivers are going to be stopped more than white drivers
25 in Richmond.

1 THE WITNESS: Black drivers are 5.13 times more
2 likely to be stopped than white drivers.

3 BY MS KOENIG:

4 Q Again, the statistics are 77 percent of the
5 drivers that were stopped were black, 14.16 percent of
6 the drives were white; is that right?

7 A That's correct.

8 Q Do what can you say about proportionality of the
9 race of the drivers that the Richmond Police Department
10 stopped in our sample?

11 A There was substantially greater proportion of
12 black driers arrested, or both stopped and arrested.

13 Q That's pretty easy math. We don't need a lot of
14 special statistics to figure that out, right?

15 A Correct.

16 Q Let's look now at the arrest data, which I believe
17 that you have depicted on page seven and table two; is
18 that right?

19 A Yes. Includes all the stops, whether individual
20 received a warning, a summons, or citation, or whether
21 they were arrested.

22 Q So, if we are looking at arrests in particular,
23 what statistical analysis did do you to determine if
24 race had any effect on the result of the stop?

25 A I conducted a chi-square analysis with race being

1 one variable, and outcome of the stop being the other
2 variables.

3 Q What did you determine?

4 A I determined that this was a statistically
5 significant relationship. That race was in fact
6 related to the outcome of the stop.

7 Q Why do we look for whether or not there is
8 statistical significance? If something is
9 statistically significant, what does that mean?

10 A So, the statistical significance indicates to us
11 that these results didn't happen just by chance. That
12 there is a relationship that we wouldn't expect to find
13 by chance.

14 THE COURT: Hold on for a second. Tell me first,
15 tell me, what is statistically significant in this
16 table two?

17 THE WITNESS: So the entire table is statistically
18 significant. So the relationship within the two
19 variants is what is statistically significant. And
20 then we can examine the individual cells.

21 THE COURT: Hold on a second. Two variables of
22 black drivers and white drivers, right?

23 MS KOENIG: No, the race of the driver is one?

24 THE WITNESS: Outcome of the stop is the other.

25 THE COURT: But there are three parts of the stop.

1 THE WITNESS: Yes. But race and outcome are the
2 things that, the two variables that we are discussing.
3 So race and outcome are related.

4 BY MS KOENIG:

5 Q So, Dr. Coston, did you run a chi-square analysis
6 on the drivers as they were arrested?

7 A So, when we are looking at this table we actually
8 do is we examine the individual cells. By that I mean
9 when we look at black drivers and arrests there were
10 152 black drivers arrested. When we look at black
11 drivers, that is one cell.

12 Black drivers who received a summons or citation,
13 390. So each of those represents an individual sell.

14 When we look at each of these cells contributes
15 overall to whether the chi-square test is statistically
16 significant.

17 Q Let's break this down.

18 So, when we are looking at the race of the driver
19 as it relates to whether or not they got an arrest,
20 summons, or citation, and a warning, tell us what you
21 found in terms of percentages for black drivers on each
22 three of those possible outcomes.

23 A So black drivers were arrested 7.91 percent of the
24 time, received a summons or citation 20.29 percent of
25 the time, and a warning 71.8 percent of the time.

1 Q Then tell us the same information for white
2 drivers.

3 A White drivers received -- were arrested
4 3.39 percent of the time. They received a summons or
5 citation 33.05 percent of the time. And a warning
6 63.56 percent of the time.

7 Q What did the chi-square analysis tell you about --
8 let's start with the arrest data.

9 A Black drivers were arrested more often than would
10 be expected by chance.

11 Q So, were you able -- you made a finding that there
12 was a weak to moderate, but substantive effect of race
13 of the driver on the results of the stop; is that
14 right?

15 A Yes.

16 THE COURT: On the arrest part of the stop.

17 BY MS KOENIG:

18 Q Yes.

19 A The substantive effect is for the relationship
20 between the outcome and the race of driver.

21 THE COURT: Tell me what that means.

22 THE WITNESS: Substantive effect means if it is
23 statistically significant and meaningful, but that it
24 is a weak relationship. So it can range anywhere from
25 very heavily, a very strong relationship between these

1 two things, one and the other are almost entirely
2 related to a weak relationship in which there is a
3 relationship that exists, but not a terribly strong
4 one.

5 THE COURT: Let me just go back and look at this.
6 It seems to me if -- that there ought to be a strong
7 relationship between the race of the driver and the
8 fact of the stop based on the fact that 77 percent of
9 the people stopped are black and 14 percent are white.

10 BY MS KOENIG:

11 Q Significant disproportionality; is that right,
12 Dr. Coston?

13 A I think the question that you are asking, though,
14 is about whether an individual is actually stopped or
15 not, is that correct?

16 THE COURT: No. You have got two kinds of data
17 there. Table one contains in the very top column, this
18 is a list of everybody that got stopped, right?

19 THE WITNESS: Yes.

20 THE COURT: So all we are looking at is whether
21 the police pulled them; is that right?

22 THE WITNESS: In that to the left, yes.

23 THE COURT: So would you characterize that as a
24 strong substantive relationship between race and being
25 stopped?

1 THE WITNESS: I would say that there exists a
2 significant -- there exists a large disparity here.
3 With this particular type of data, though, just the
4 frequency and percents we can't determine statistical
5 significance.

6 MS KOENIG: On that particular question, right?

7 THE COURT: Why not?

8 THE WITNESS: On table one?

9 THE COURT: Yes. On the first part of table one,
10 the race of the driver that gets stopped.

11 THE WITNESS: Because we would have to, in that
12 instance we would have to know also what the population
13 of drivers who were not stopped was. So we don't know
14 how many drivers end up, what races were not stopped.

15 THE COURT: So, if you had --

16 THE WITNESS: We would need that in order to
17 actually conduct a statistical test.

18 For that particular item.

19 THE COURT: So would you need traffic information
20 for a particular -- the traffic count for some part of
21 the road?

22 THE WITNESS: Well, we would need to know all the
23 drivers that were on the road during the same time that
24 all of these stops occurred.

25 THE COURT: Right. So, if we had one of those

1 counters the Virginia Department of Transportation puts
2 across the road, a little wire, you could figure out
3 the number of drivers.

4 THE WITNESS: We wouldn't know the race those
5 drivers.

6 THE COURT: So you would need to know the drivers
7 and numbers --

8 THE WITNESS: That's correct.

9 THE COURT: -- in order to determine that.

10 MS KOENIG: That the stops themselves are
11 statistically significant, right?

12 THE WITNESS: Yes.

13 THE COURT: Well, why isn't it significant that so
14 many more African-American people are stopped than
15 white people?

16 THE WITNESS: So in terms of statistical
17 significance, that is a very specific statistical term.
18 I do think in the way that the every-day person would
19 use the word "significant" as being larger in the
20 courtroom, yes, that 77 percent is a large disparity
21 and a notable one.

22 THE COURT: All right. Go over then to table two.

23 Am I correct then that it looks like
24 African-American people are less likely to get a ticket
25 than white people?

1 THE WITNESS: Yes. That's correct in terms of raw
2 percentages.

3 THE COURT: And more likely to get a warning as
4 opposed to a ticket; is that right?

5 THE WITNESS: Yes.

6 MS KOENIG: More likely to get arrested?

7 THE COURT: And more likely to get arrested.

8 THE WITNESS: The summons citations portion of
9 data was close enough that that could be due to chance.
10 The difference on both arrests and warnings, though,
11 was significant or was more notable.

12 BY MS KOENIG:

13 Q Statistically significant?

14 A Again, overall table is statistically significant,
15 we can't talk about the statistical significance of
16 individual cells. Only how much they contribute to the
17 overall model.

18 Q Ultimately what you determined was that black
19 drivers were more likely than white drivers -- or black
20 drivers were arrested more often and white drivers were
21 arrested less often than expected by chance?

22 A That's correct.

23 Q Next I want to look at the search data, which is
24 displayed on page eight of the report and table three.

25 So, again, this is relating to searches of persons

1 and searches of vehicle by race, right?

2 A Correct.

3 THE COURT: All right. Let's define what a search
4 is. I know what a search of a person is. For purposes
5 of this if an officer looks in your car with a
6 flashlight from outside, is that defined as a search?

7 THE WITNESS: The police themselves are the ones
8 who classified whether they searched the vehicle when
9 they submitted this data to the Virginia Department of
10 State Police.

11 THE COURT: So we don't know --

12 THE WITNESS: This is based on police's own
13 classification as to whether they searched the vehicle
14 or a person.

15 THE COURT: So we don't know whether this means
16 somebody just looked in through the windows to see what
17 is going on inside, or got inside and tossed around
18 inside the car to see what is in the glove box.

19 BY MS KOENIG:

20 Q We did not get any definitions; is that right,
21 what police meant when entered the term "search?"

22 A No, I did not receive definitions.

23 Q What statistical analysis did you do to determine
24 to if race had any effect on whether Richmond Police
25 Department officers searched a person or a car involved

1 in a traffic stop?

2 A I conducted chi-square analysis for this as well.

3 Q What did you determine?

4 A The results were for both stops of, searches of
5 person and searches of vehicles were statistically
6 significant.

7 THE COURT: Was it weak or strong significance?

8 THE WITNESS: So, in regards to a person being
9 searched there was weak effect. And the same is true
10 for vehicle searches.

11 BY MS KOENIG:

12 Q Now, Dr. Coston, let's talk about sample sizes
13 versus overall population. Why do you even do this
14 statistical analysis with a sample?

15 A Okay. So, essentially samples we can use to
16 generalize to a larger population of stops. So,
17 essentially it is virtually impossible -- well not
18 virtually impossible -- very, very difficult to account
19 for an entire population of something. This is why we
20 only conduct a census every ten years. And even then
21 we are not able to reach every single person in the
22 United States.

23 So because we don't know every single instance in
24 a larger population we can use statistics to generalize
25 from a particular sample to what occurs in the

1 population.

2 When we talk about statistical significance we are
3 saying that the relationship that exists in our sample
4 also exists in a larger population.

5 Q Meaning that if something is statistically
6 significant, it has been reliable to extrapolate out to
7 the population itself.

8 A Yes.

9 THE COURT: So you would think if something is
10 statistically significant, then if we look over the
11 years we would find that 7.91 percent of
12 African-American people get arrested after car stops.

13 THE WITNESS: We wouldn't necessarily find that
14 exact percentage, but we would likely find that
15 African-Americans are more likely, still more likely
16 than chance, to be arrested than whites are during
17 traffic stops.

18 THE COURT: Okay.

19 MS KOENIG: So let's look now at table four.

20 THE COURT: Before we get to table four, are you
21 going to discuss Cramer V?

22 MS KOENIG: Haven't gotten there yet. Just about.

23 THE COURT: I thought Cramer V was discussed with
24 respect to a lot of these.

25 Q Kendall Tau was related to table four. Can you

1 tell us what Kendall Tau is, Dr. Coston?

2 THE COURT: About what?

3 BY MS KOENIG:

4 Q Kendall Tau. K-E-N-D-A-L-L. T-A-U, separate
5 word.

6 A Kendall Tau and Cramer V are both statistics that
7 that are used to calculate strength of a relationship
8 after conducting chi-square test.

9 So the differences are largely based on the number
10 of cells in a table. But both measure the strength of
11 a relationship.

12 Q Is Kendall Tau and Cramer V, are those typical
13 tools that you use in your day-to-day professional life
14 of when you conduct statistical analysis?

15 A When I would conduct a chi-square, yes. Those
16 measures wouldn't be appropriate go other types of
17 statistics.

18 THE COURT: Dr. Smith says that chi-square is not
19 an appropriate way to analyze traffic stops.

20 What do you think about that?

21 BY MS KOENIG:

22 Q You can answer honestly, Dr. Coston.

23 A I disagree. I think given the nature of the data
24 here that is incorrect. I disagree with Dr. Smith's
25 analysis of the data and application of the regression

1 techniques.

2 THE COURT: Okay. Is he in your department?

3 THE WITNESS: No. But even if he was, I would
4 would still disagree.

5 THE COURT: Still disagree.

6 If he was chairman of the department would you?

7 THE WITNESS: Yes, I would.

8 THE COURT: Okay.

9 BY MS KOENIG:

10 Q So tell us, Dr. Coston, about what you found in
11 table four.

12 A So table four looks at the association between
13 race of driver and the result of the stop for both
14 traffic stops. They are traffic violations and also
15 separately those are equipment violations.

16 Q So, it is similar to what was depicted in table
17 three, it just breaks down the stops into stops that
18 were based on traffic violations versus stops based on
19 equipment violations?

20 A That's correct.

21 Q Okay. Again, what statistical test or analysis
22 did you do determine if race had any effect on this
23 table?

24 A Chi-square analysis was conducted.

25 Q What did you determine?

1 A That for equipment violations and race of driver
2 that there is a relationship between those two.

3 Q A statistically significant relationship?

4 A Yes.

5 THE COURT: Let's back up a second. Kendall Tau
6 and Cramer V, are these -- is there a number that is,
7 that is Kendall Tau, like seven or something like
8 that --

9 A So both of these --

10 THE COURT: -- or are these techniques you use?

11 THE WITNESS: No, essentially these are numbers
12 that can range from strength of association, ranges
13 from zero, essentially that would no association
14 whatsoever; to one or negative one, which would mean
15 that there was, that these two were completely aligned
16 with one another.

17 THE COURT: When up say "association," is that the
18 same as relationship like you said earlier?

19 THE WITNESS: Yes.

20 THE COURT: Okay.

21 So, how do you figure out what Kendall Tau is?

22 THE WITNESS: There is a formula for calculating
23 either Kendall Tau or Cramer V.

24 THE COURT: You can figure these things out at one
25 point.

1 THE WITNESS: Yes, they figure these things out.

2 BY MS KOENIG:

3 Q So, meaning that it was more likely than, that the
4 data released black drivers got arrested on equipment
5 violations at stops more often than white drivers got
6 arrested less often on equipment violation stops than
7 expected by chance; is that right?

8 A That's correct.

9 Q Okay.

10 THE COURT: Are you, we have gone an hour and a
11 half now. Is this a stopping point?

12 MS KOENIG: A natural stopping point, Your Honor.

13 THE COURT: Let's take a ten minute break. All
14 right.

15 (A recess was taken)

16 BY MS KOENIG:

17 Q Your Honor, I am going to continue with Dr. Coston
18 now. Let's turn to the mapping visualization you
19 created now.

20 First, start with the cluster map. What is that?

21 A Essentially a cluster map groups together stops
22 that occurred in close proximity to one another. For
23 this particular cluster map I set that threshold to
24 five stops in close proximity.

25 Q So how did you, and when talking about the cluster

1 map, looking specifically at figures one and two on
2 page 89 of the report?

3 A That's right. Figure one presents the individual
4 stops. Figure two presents the clustered stops.

5 Q Okay. So let's talk about first, how did you
6 create these maps?

7 A So the coordinates, the latitude longitude
8 coordinates were imported into R GIF, which is a
9 geographical information system program. And plotted
10 it onto a map. The Richmond Police precincts were also
11 overlaid on top of that. And the precinct maps comes
12 directly from the City of Richmond geo hub.

13 Q If we can pull defense exhibit two up on to the
14 larger screen.

15 We talked about this, but we have some interesting
16 technology in this courtroom that allows to you touch
17 on screen in front of you. And to draw on if need be.
18 You talked about overlaying the map first with the
19 precinct data. When we see on the left hand side the
20 precinct, the blue line, is that what is indicative of
21 the precinct line?

22 A Yes, it is.

23 Q So when we see on the left hand side the area that
24 covers Stratford Hills and West Hampton, is that the
25 third precinct for Richmond Police Department?

1 A Yes.

2 Q If we go to the right of that moving clockwise,
3 and see an area that covers Highland Park, not East
4 Highland Park, but where it is covered in red dots, is
5 that the fourth precinct?

6 A Yes.

7 Q And if we keep moving down clockwise we see an
8 area that says Church Hill. Is that the first
9 precinct?

10 A Yes.

11 Q If we go one more on the clock we get down to the
12 south side of Richmond; is that the second precinct?

13 A Yes.

14 Q And so you overlaid the precinct lines on to the
15 map itself, right?

16 A Yes, that's correct.

17 Q Tell us about the dots in figure one.

18 A The dots represent individual traffic stops. And
19 these are color coded for the race of the driver. Red
20 dots indicating black drivers, and blue dots indicating
21 white drivers. Purple Asian. And orange, yellow and
22 orange, native American. And those are also mapped
23 individually.

24 Q On this map what does the green mean?

25 A Green is drivers of unknown race.

1 Q Meaning the data was just not recorded?

2 A I am not sure. I believe that the officers could
3 probably record unknown. There were some instances in
4 which there was, that field was entirely blank, so
5 unknown I believe is the officer recording it was
6 unknown versus just not submitting that data.

7 Q Okay. So tell us why you created this map in
8 figure one.

9 A So, the map in figure one, again, represents
10 individual stops. It helps us get a sense of the kind
11 of overall spread of those stops and where they
12 occurred in Richmond.

13 Q And what does this map show us about whether black
14 and white drivers are stopped in Richmond?

15 A So, I think that is actually a little bit easier
16 to see on the cluster map itself.

17 Q Okay.

18 A But essentially this shows the disbursement of
19 drivers of multiple races, and we can see to some
20 degree in this first map that the blue dots are kind of
21 randomly disbursed across the map whereas we do see
22 higher concentrations of red dots.

23 Q Let's move then to figure two.

24 When you talk about clusters you said you set the
25 threshold for a cluster at five?

1 A Yes.

2 Q So any dot we see on figure two does that mean
3 there were at least five stops at that particular race
4 at that area?

5 A Yes. And larger dots indicate more stops in close
6 geographic proximity to one another. So smaller dots
7 would be closer to five, and more dots would be more
8 than that. Or bigger dots would be more than that.

9 Q So what does this visualization help us see?

10 A So I think it illustrated here that we do see
11 clusters of stops of black drivers in all of the
12 precincts, but really only see clusters of white
13 drivers stopped in the third precinct.

14 Q I want to draw your attention now to what has
15 already been admitted as exhibit R-2 in this case.

16 Are you familiar with the University of Virginia
17 Weldon Copper Center for Public Services racial dot
18 map?

19 A Yes.

20 Q Was that program analyzing the census data from
21 2010?

22 A Yes.

23 Q Did the Center plot each reported race of the
24 individuals that were counted in the 2010 census and
25 create maples of that effect?

1 A Yes.

2 Q Does so in R-2 we can see here that in this map
3 white persons are depicted in blue dots, right?

4 A That's correct.

5 Q And black people are depicted in green dots,
6 right?

7 A Yes.

8 Q Okay.

9 So if we were to look at the left hand side of the
10 map, is that consistent with what we see in the third
11 precinct?

12 A Yes.

13 Q Then moving around the fourth, first, and second,
14 we see that we would have more green dots in the, far
15 more green dots in the fourth, second and first
16 precincts; is that correct?

17 A Yes, that's correct.

18 Q Okay.

19 THE COURT: Well, go back to that --

20 MS KOENIG: Yes, Your Honor?

21 THE COURT: -- for a second.

22 Does this include only -- is this area in the City
23 of Richmond?

24 MS KOENIG: This map is not. Just limited to the
25 precincts.

1 THE COURT: That is what I thought.

2 BY MS KOENIG:

3 Q Is that right, Dr. Coston?

4 A This is not limited to only the precinct, no.

5 Q Okay.

6 THE COURT: Limited only to the City?

7 MS KOENIG: Correct.

8 THE WITNESS: Some of this is in Henrico and
9 Chesterfield, looks like.

10 MS KOENIG: Correct.

11 BY MS KOENIG:

12 Q So let's go back to figure two.

13 I started, I was interrupting you about what you
14 could tell in terms of the, what this information
15 visually tells us about where people of different races
16 are stopped in the City of Richmond?

17 A So black drivers are stopped in all precincts.
18 Black drivers are stopped in clusters in predominantly
19 white neighborhoods. Also in predominantly black
20 neighborhoods. And predominantly Hispanic. White
21 drivers cluster only in neighborhoods predominantly
22 white.

23 Q Meaning precinct neighborhoods?

24 A Correct.

25 Q Now, let's turn to figure three. You have

1 discussed the heat map. What is a heat map?

2 A So heat maps essentially display the density of
3 traffic stops. So, instead of looking at the
4 individual dots and also not clusters, these heat maps
5 allow us to look at the overall spread as well as the
6 density. So the bright yellow and red areas indicating
7 higher densities of stops.

8 Q Okay.

9 THE COURT: Hold on. I was writing something down
10 and missed part of that.

11 Ask the question again.

12 THE WITNESS: So that heat maps allow us to look
13 at both the overall spread of the stops, and also areas
14 of increased density. So that areas in the bright
15 yellow, oranges and reds are higher density, while the
16 blue areas are lower density.

17 BY MS KOENIG:

18 Q So if we look at figure three, what does figure
19 three depict for us?

20 A So the interesting feature of figure three is the
21 areas of high density concentration. We see one over
22 on the south side. Kind of close to the James River
23 Park. We also see one in central Richmond. And then
24 one just north, slightly north of Church Hill.

25 Q Figure three is the heat map or the density of

1 traffic stop of black drivers?

2 A That's correct.

3 Q And then if we look at figure four, what is figure
4 four showing us?

5 A That is the heat map of density of stops of white
6 drivers. And here we really only see one of those very
7 high density points. Again --

8 THE COURT: Same place that there is a high
9 density of blank drivers.

10 THE WITNESS: Those are similar, yes.

11 Q And so --

12 THE COURT: Go ahead.

13 Q What can, what does this visualization tell us
14 about the density of where stops are happening in
15 Richmond of white drivers?

16 A Well, that particular set of stops, if we look at
17 the map that overlays; this number one occurs in the
18 third district, primarily white district. Whereas when
19 we compare it to the map of high density stops of black
20 drivers, those occur in multiple precincts. Relatively
21 white.

22 Q Is the overall density of white drivers more
23 disperse throughout all parts of Richmond?

24 A Yes, it is.

25 Q Let's look now at figure five. Tell us just how

1 you created figure five.

2 A So figure five overlays the heat map showing stops
3 of black drivers with the racial demographics of the
4 City from the most recent American Community survey.

5 Q What is the American Community Survey?

6 A It is used to supplement census data. Because we
7 only take census every ten years, population shifts
8 during that ten-year time period. The American
9 Community Survey includes information that updates much
10 of that information, and also provides additional
11 information above and beyond census takes, because that
12 is limited. But essentially this provides us with more
13 accurate data about the change in racial composition
14 versus using, for example, the 2010 census information.

15 Q The data that you pull from American Community
16 Survey, what were the years for that data?

17 A I believe that is 2015 to 2019.

18 Q Would looking at your report help refresh your
19 recollection?

20 A Yes. Yes. 2015 to 2019. That is correct.

21 Q And who conducts the American Community Survey?

22 A The American Community Survey is conducted --

23 Q Does the Census Bureau do it, or some other
24 organization do it?

25 A It is under the Census Bureau, it is a supplement

1 to the census.

2 Q Okay.

3 Basically you don't want to wait for another ten
4 years to see what is happening in the population. So
5 they go out and do these smaller samples to get data
6 that they generate, right?

7 A That's correct.

8 Q So, when you got the American Community Survey
9 data, what does that show us on figure five? How did
10 you plot that data?

11 A So this is a graphical overlay. The Census Bureau
12 has available maps on R GIF's data hub that are
13 publicly accessible. So I overlaid their Community
14 Survey racial demographics over the map that also have
15 the heat map. And precinct map. So what we see is
16 that the brown sections are predominantly non Hispanic,
17 white; the yellow sections are predominantly black; and
18 the blue sections, which are a little bit harder to see
19 here given the coloring, unfortunately you can't alter
20 much of the coloring because these are thermos; is
21 predominantly Hispanic or Latino.

22 Q And so when you were looking at this information
23 you have used worry "dominantly," right, in how you
24 phrase this. When we look at the UVA racial dot map,
25 that shows us it is really more than predominant,

1 right? That the west end of town in Richmond is almost
2 entirely white families, right?

3 A That's correct.

4 Q And the other parts of town almost entirely black
5 with some areas of latino families, right?

6 A Yes. And you see it is difficult to see the
7 predominance on the map, the colors are slightly darker
8 for the racial categories when they are more
9 predominant, but, yes, these are largely segregated
10 neighborhoods.

11 Q Okay.

12 So tell us what we see in terms of the high
13 density areas as it relates at high density area as
14 relates to the south, the south of the river near
15 Janhke Road in the third precinct.

16 A This is, this is an area of, high area of density
17 for stops. And what we see is that most of the density
18 occurs in what is a predominantly white area of town,
19 but also overlaps so where a predominantly white and
20 predominantly black area of town butt up against each
21 other.

22 Q So if we compare the cluster map that you
23 generated in figure two --

24 A We are looking at this cluster.

25 Q -- so we see red dot there, right?

1 A Yes, predominantly red dots, even though that is a
2 higher density area or white drivers there is no
3 corresponding cluster of white drivers there.

4 THE COURT: Well, there is.

5 THE WITNESS: Higher density, but there is --

6 THE COURT: If you look at figure two.

7 MS KOENIG: Figure four, Your Honor?

8 THE COURT: Yes, figure four. There is a cluster
9 there of white drivers as well.

10 THE WITNESS: It is higher density, but it is not
11 the same, it's not a cluster larger than five.

12 THE COURT: But it is -- the heat map shows that
13 there is a --

14 THE WITNESS: The heat map doesn't indicate the
15 number, but the cluster does.

16 BY MS KOENIG:

17 Q Tell us a little more specifically about that. We
18 have got --

19 THE COURT: It's not -- there is not a white
20 cluster. So where that is is where the Boulevard
21 intersects Jahnke Road, which is an area that is, as
22 you pointed out, area where there is a large black
23 population bordering a white population.

24 THE WITNESS: Correct.

25 BY MS KOENIG:

1 Q So, just to make sure I am clear. So it is not
2 that there were no white drivers that were stopped in
3 that area, just that it wasn't enough to generate
4 cluster dots, unlike the black drivers that were
5 stopped in that area?

6 A That's correct.

7 Q All right.

8 Let's go back to figure five. Let's look at the
9 high density area of stops that is in the fourth
10 precinct north of downtown.

11 THE COURT: Can you get that purple thing off
12 that, Wendy?

13 All right. Thank you.

14 BY MS KOENIG:

15 Q Circle the area I am talking about, Dr. Coston.

16 A Could you repeat that?

17 Q High density area of stops that we see that is in
18 the fourth precinct a little north of downtown. Tell
19 us about that area.

20 A So, again, this is area in which we see
21 predominantly black neighborhood butting up against a
22 predominantly white neighborhood. And both high
23 density of stopped of black drivers as well as cluster
24 of black drivers contained there.

25 Q So let's compare that area of figure five to the

1 cluster area in figure two.

2 A Which would be right here.

3 Q Circling for the record essentially the lowest
4 large cluster dot in the fourth precinct?

5 A That is correct.

6 Q Okay.

7 Do you ever --

8 THE COURT: Do you know what street that is?

9 Approximately what intersection that is?

10 THE WITNESS: This would be near the Jackson Ward
11 Leigh Street area.

12 THE COURT: Okay.

13 BY MS KOENIG:

14 Q Going back to figure five again, Dr. Coston, do we
15 see that that area of high density of stops of black
16 drivers happened in an area where there is a white
17 neighborhood that abuts a black neighborhood?

18 A Yes.

19 Q Dr. Coston, have other academics used similar
20 tools, cluster maps and heat maps to visualize data
21 when studying racial profiling?

22 A Yes, they have.

23 Q I am gong to show you if can look in the folder
24 what has been marked defendant's exhibit four.

25 Your Honor, there had been previously submitted in

1 the case as ECF number 72. Exhibit K.

2 Is this an article, Dr. Coston, in which the
3 accuracy in this article used similar source of
4 mapping?

5 A Yes.

6 Q I want to show you what has been marked as exhibit
7 five. If you could turn to that one in your book.
8 Again, defense exhibit five, which, Your Honor, has
9 already been submitted as ECF number 72, exhibit N.

10 Is that another example of when accuracy used
11 similar source of mapping in similar studies?

12 A Yes.

13 THE COURT: All right. Exhibit four and five are
14 admitted.

15 Do either of these use the chi-square technique?

16 THE WITNESS: No, that is a separate technique.

17 THE COURT: Okay.

18 BY MS KOENIG:

19 Q Dr. Coston, I want to talk to you about, you are
20 not the only person to find disproportionate effects of
21 black drivers in Richmond; is that right?

22 A That is correct.

23 Q Let's take a look at a few other analyses of the
24 relationship between race and training stops in
25 Richmond. First I want to turn your attention to

1 defendant's exhibits exhibit six, which, Your Honor, is
2 I think the same as Government's exhibit one.

3 Dr. Coston, have you specifically learned about
4 Virginia's Department of Criminal Justice Services
5 which analyze similar data was presented to you in this
6 case?

7 A Yes.

8 THE COURT: And government has moved for exhibit,
9 or offered exhibit six as an exhibit as well.

10 MS KOENIG: I think it as Government's exhibit
11 one, Your Honor, that has already been submitted in
12 this case as ECF 72, exhibit G, just to keep things in
13 order.

14 BY MS KOENIG:

15 Q So the Department of Criminal Justice Services
16 produced a report about the amount they conducted,
17 right?

18 A Yes.

19 Q The report was overall state-wide data generally,
20 right?

21 A Yes. Census data out by localities as well.

22 Q Then, as you said, specific information from
23 localities that were submitted, right?

24 A Yes.

25 Q So let's take a look at page 58 here.

1 THE COURT: Page 58?

2 MS KOENIG: Your Honor, I have a different, in
3 order for me to pull it up on the PDF it is a different
4 page, but when you look at the pagination that is
5 native to the document it is page 58.

6 THE COURT: Okay. On the map. Got it.

7 BY MS KOENIG:

8 Q All right.

9 So, Dr. Coston, what does this information on page
10 58 tell about what the Department found in terms of
11 Richmond and drivers being stopped by the Richmond
12 Police Department?

13 A So, it showed moderate over-representation of
14 black drivers and no over-representation of white
15 drivers.

16 Q Let's look at the next page, page 59. What does
17 this information on native page 59 tell us about what
18 the Department found in terms of Richmond?

19 A Again, moderate over-representation of black
20 drivers and no over-representation of while drivers.

21 Q Then look at page 60 of this report. What did the
22 Department find in terms of Richmond on this page?

23 A Moderate over-representation of black drivers and
24 no over-representation of white drivers.

25 Q Okay.

1 Now, on the left hand side of each of those maps
2 where it has the colors that represent the level of
3 over-representation in the parenthesis we see something
4 that says DI, right?

5 A Yes.

6 Q Is DI a statistical tool you would use in your
7 normal day-to-day career?

8 A No. DI stands for disparity index, and this was
9 something that they created within the Department to
10 represent the level of disparity in terms of
11 representation in the population, essentially.

12 Q So it wasn't a statistical tool, right, that you
13 would use in your expert analysis?

14 A No, this is not a tool that I would use.

15 Q But ultimately what they found, the findings are
16 similar to what you found in terms of your statistical
17 significance analysis?

18 A Yes, they still found there were disparities.
19 Each of these in terms of arrests of drivers, searches
20 of drivers, and stops of drivers all indicate moderate
21 disparities for black drivers and no
22 over-representation of white drivers.

23 Q Dr. Coston, you had also helped the Richmond
24 transparency, transparency and accountability project
25 in 2018 analyze data that it had obtained from the

1 Richmond Police Department, right?

2 A That's correct.

3 Q That group is commonly referred to as R TAP?

4 A Yes.

5 Q Did R TAP produce a report about that analysis?

6 A Yes, they did.

7 Q Look at what has been marked defendant's exhibit

8 16.

9 Do you recognize this defendant's exhibit 16 as R
10 TAP report from 2018?

11 A Yes, I do.

12 MS KOENIG: Your Honor, I move to admit
13 defendant's exhibit 16.

14 THE COURT: Admitted.

15 BY MS KOENIG:

16 Q Specifically let's take a look at page 11 of that
17 report. In the R TAP analysis did you make any
18 findings about traffic arrests of black people in
19 Richmond?

20 A Yes.

21 For the time period under investigation,
22 January 2017 to October 2018, black people accounted
23 for 75 percent of all traffic arrests or arrests from
24 traffic stops.

25 Q So what did that mean in terms of the likelihood

1 that black people were going to be arrested during the
2 traffic stop?

3 A Black people were 31 percent more likely than
4 white people.

5 Q Now, as part of your work in this case you have
6 reviewed some materials that Dr. Michael Smith, the
7 government's expert, prepared, right?

8 A That's correct.

9 Q I want to first draw your attention to defendant's
10 exhibit seven. Did Dr. Smith write an article about a
11 traffic study or traffic stop study that he conducted
12 from February 14 of 2000 to March 31 of 2000?

13 A Yes.

14 Q Is that what is reflected in exhibit seven?

15 A Yes.

16 MS KOENIG: Your Honor, I move for admission.

17 THE COURT: Admitted.

18 BY MS KOENIG:

19 Q So, specifically, let's look at page 12 as it is
20 paginated in the article.

21 What did Dr. Smith find in his 2001 article based
22 on the 2000 data in terms of the percentage of traffic
23 stops conducted by race?

24 A White drivers accounted for 32.1 percent of all
25 stops, and black drivers accounted for 64.2 percent.

1 Q Now, the analysis that Dr. Smith did was of a
2 different set of data than we had access to, right?

3 A That's correct.

4 Q And was Dr. Smith's study conducted in conjunction
5 with cooperation with the Richmond Police Department?

6 A Yes.

7 Q Meaning that he was able to work with them to set
8 the variables of the data to be collected; is that
9 right?

10 A I wouldn't be personally privy to the extent of
11 his involvement in that process.

12 Q Certainly had a larger scope of variables than
13 what we had access to in this case?

14 A I only had access to what was collected by someone
15 else, yes. Whereas in a jointly prepared study you
16 would likely have more access or access to decide what
17 variables were included.

18 Q For example, in this case Dr. Smith had
19 information about the officer's age, or the officer's
20 race, different things like that, right?

21 A Yes, that is correct.

22 Q So, Dr. Smith's report discusses using a
23 multivariate regression analysis?

24 A Yes.

25 Q We talked about what that is already. Tell us

1 more about what happened in the regression analysis in
2 this case. In this study.

3 A Well, Dr. Smith conducted more than a regression
4 analysis in this study. So it depends which one you
5 are referring to.

6 Q Did he do one specifically about -- well, how did
7 he use race of the driver in this case?

8 A So, in the first regression analysis this
9 presented essentially race was included as the
10 dependent variable rather than one of many independent
11 variables. So this is part of the reason when you
12 asked whether I agreed with Dr. Smith, race is almost
13 never used as a dependent variable.

14 Q Why?

15 A It is almost always used as an independent
16 variable.

17 THE COURT: Let's pretend I don't know the
18 difference.

19 THE WITNESS: Sure. So usually when we are
20 talking about dependent variables we are talking about
21 an outcome.

22 Independent variables are things that are used to
23 predict the particular outcome.

24 Well, race isn't really an outcome that you are
25 trying to predict. And so, yes, he frames it in terms

1 of predicting the race of the driver stopped, but most
2 regression analyses would not do that. They would
3 include race as an independent variable looking at, for
4 example, what the outcome of the stop was, whether
5 people received a summons or a vio -- a summons or were
6 arrested or a warning similar to the data I looked at.

7 BY MS KOENIG:

8 Q Well, so because you talked about earlier in your
9 testimony, it was not, you who would not have been able
10 to produce reliable data if you had done a regression
11 analysis, right?

12 A That's correct.

13 Q So does that mean in your finding showing various
14 pieces of data that we talked about already are
15 statistically significant, does that mean that your
16 findings are less valid because of that?

17 A No. My findings are less valid.

18 Q Okay. That is what I mean, because you had to use
19 the chi-square analysis as opposed to the regression
20 analysis?

21 A So all of these statistical tests are equally
22 valid if they are conducted in accordance with the
23 rules for conducting them. So, multiple different
24 types of tests actually might be used to come to
25 similar results given different types of data.

1 So, the validity of a test is really -- what you
2 are asking about is whether it was appropriate to the
3 data and whether when you model that, for example, by
4 choosing what variables go into a regression that you
5 are doing that appropriately. Just because you can
6 make race the dependent variable doesn't mean you
7 should make race the dependent variable.

8 Q I want to talk with now about benchmarking.

9 What is benchmarking?

10 A So, benchmarking is essentially a means of
11 determining, okay, what are we making this in
12 comparison to. So, for example, are we comparing when
13 looking at drivers, we can't know the entire population
14 of drivers without observing every single driver that
15 has driven in the City of Richmond at any given point
16 in time. So therefore we have to use benchmarks to
17 infer about the larger population of drivers.

18 Q And so Dr. Smith has -- what's the benchmark you
19 used again?

20 A So the benchmark is the American Community Survey
21 data. That is the supplement to census data.

22 Q So the census projection data, right?

23 A Yes.

24 Q And so Dr. Smith had suggested in his review of
25 your work that you could have done other forms of

1 benchmarking in this case. For one he suggests you
2 could have done direct field observation. Is that
3 true? Could you have done direct field observation at
4 the relevant times in this case?

5 A No. Because we can't go back in time to observe
6 all of those stops.

7 Q And even if you could, are there very many direct
8 field observations that are done in cases like this?

9 A No. They tend to be cost prohibitive.

10 Q Dr. Smith also suggests that you could have done a
11 veil of darkness survey. What is a veil of darkness
12 analysis?

13 A So the veil of darkness proposes that when
14 officers can't see the race of a driver, when it is
15 dark outside, the racial disparities would be
16 eliminated because officer bias can't present itself in
17 the equation. That type of analysis couldn't be done
18 because there was no time stamp data on the data that
19 was provided.

20 Q Had we received time stamp data, in theory that
21 could have been done, right?

22 A Yes.

23 Q But we did not have that data?

24 A No.

25 THE COURT: H Low would you get that data?

1 BY MS KOENIG:

2 Q Would we have gotten that gotten data if the
3 Police Department had given us potentially reports for
4 individual stops?

5 A Yes. I believe that was the data that was
6 actually requested from them that they declined to
7 provide.

8 Q Dr. Smith also suggests that you could have done a
9 crash data analysis. That is a benchmarking tool that
10 he helped create; is that right? Or form?

11 A Yes. That is another type of benchmarking
12 analysis.

13 Q Did you have crash data to be able to utilize for
14 analysis in this case?

15 A No.

16 Q So, ultimately you said you used the American
17 Community Survey data, which is census data as the
18 benchmark; is that right?

19 A Yes.

20 Q And --

21 A And census benchmarking is very common in studies
22 of traffic stops. In fact, Dr. Smith uses census
23 benchmarking in the 2001 study.

24 Q So did the Department of Criminal Justice Services
25 in analyzing the Virginitiy, excuse me, the Virginia

1 Community Policing Act data in defendant's exhibit six?

2 Right?

3 A Yes. The Department of Criminal Justice Services
4 also used census benchmarking.

5 Q Let's take a look at defendant's exhibit eight.

6 Dr. Coston, do you recognize defendant's exhibit
7 eight as an article where academics were studying the
8 New York City Police Department stop and frisk policy
9 in 2015?

10 A Yes.

11 Q Did this, did the -- Your Honor, that has already
12 been submitted as ECF 72, exhibit J, in this case.

13 THE COURT: All right. That doesn't put it in
14 evidence.

15 BY MS KOENIG:

16 Q I do.

17 But the academics in this article, Dr. Coston, did
18 they also use census data as benchmark for their study?

19 A Yes, they used the American Community Survey
20 projections based on census.

21 THE COURT: All right, admitted.

22 BY MS KOENIG:

23 Q Is any benchmark perfect?

24 A No.

25 Q And is census data in your experience widely

1 utilized in academic studies as a benchmark?

2 A Yes.

3 THE COURT: Well, I guess it could be a more
4 accurate benchmark in some areas than others, right?
5 Census data doesn't really tell you everything that
6 about who is on the road. It might tell you everybody
7 about who is living on a particular set of blocks,
8 right?

9 THE WITNESS: That's correct. But, the other
10 types of benchmarking we have don't tell us exactly who
11 is on the road --

12 THE COURT: Well --

13 THE WITNESS: -- at all times, either.

14 THE COURT: Well, other than parking a student out
15 there and monitoring all the traffic could tell you
16 that.

17 THE WITNESS: Right. But we would also have to be
18 at all of these locations simultaneously, which is why
19 direct observation isn't typically used.

20 BY MS KOENIG:

21 Q Dr. Coston, at the end of the day did you have an
22 opinion or a finding, did you make findings about what
23 the data showed in this case?

24 A Yes, I did.

25 Based on the analysis of available data, and the

1 statistically significant findings about black drivers
2 being disadvantaged across multiple aspects of these
3 stops ranging from arrests to searches, et cetera, in
4 terms of traffic stops there are disparate impacts of
5 policing on black people who are stopped in Richmond.

6 MS KOENIG: No further questions, Your Honor.

7 The government will probably have some questions
8 for you.

9 THE WITNESS: Okay.

10 THE COURT: Probably will.

11 All right. Cross examination?

12 MR. GIBBONS: I do have cross examination, yes.

13 THE COURT: Mr. Shea, let's hear from you.

14 Did you introduce all the exhibits you wanted to?

15 CROSS EXAMINATION

16 MS KOENIG: Yes, Your Honor.

17 MR. GIBBONS: Your Honor, between me and him I am
18 not sure Mr. Seibert understood the statistics well
19 enough to --

20 THE COURT: Well, Mr. Seibert and I are in the
21 same boat on this.

22 Go ahead, Mr. Shea.

23 MR. GIBBONS: Let me make one note, Your Honor, so
24 I make sure to come back to it.

25 THE COURT: How long do you think cross will take?

Coston - cross

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1 MR. SIEBERT: Might take us to 5:00 o'clock, Your
2 Honor.

3 THE COURT: Okay. Well, the question I meant to
4 ask -- sorry -- you are not Mr. Shea, you are Mr.
5 Gibbons. Sorry.

6 That was my fault.

7 Shea is the first name.

8 One question I meant to ask him. First of all,
9 Dr --

10 THE WITNESS: Coston.

11 THE COURT: -- Coston, are you being paid?

12 THE WITNESS: Yes.

13 THE COURT: And what is your compensation for
14 testifying?

15 THE WITNESS: \$150 per hour.

16 THE COURT: Is that the same compensation for
17 preparation for testimony?

18 THE WITNESS: Yes.

19 THE COURT: Okay.

20 How much have you billed so far in the case?

21 THE WITNESS: I am not certain the exact number.
22 I only submitted a bill for producing the report.

23 THE COURT: How much did you bill for producing
24 the report?

25 THE WITNESS: That was 40 hours.

Coston - cross

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1 THE COURT: So that was roughly \$60,000.

2 THE WITNESS: No, not, 60. 6,000.

3 THE COURT: Sorry.

4 THE WITNESS: Yes.

5 THE COURT: That is why I am not a statistician.

6 6,000 to produce the report. And then you spent time

7 getting ready for today?

8 And have you testified in the past?

9 THE WITNESS: No, I have not.

10 THE COURT: Ever been recognized as an expert

11 before?

12 THE WITNESS: Yes. Not by a court.

13 THE COURT: Okay.

14 THE WITNESS: I am an expert advisor to the Bureau

15 of Justice Statistics.

16 THE COURT: What is the Bureau of Justice?

17 THE WITNESS: Bureau of Justice of Statistics

18 maintains all the statistics for the Bureau of Justice.

19 So, uniform crime reports, national crime victimization

20 survey, national data collection related to issues

21 of --

22 THE COURT: Is the Bureau of Justice some kind of

23 government agency?

24 THE WITNESS: Yes. Federal agency.

25 THE COURT: Is that like a Department of Justice?

1 THE WITNESS: Yes.

2 THE COURT: Okay.

3 THE WITNESS: Bureau of Justice Statistics is
4 associated --

5 THE COURT: Part of the Justice Department?

6 THE WITNESS: Yes.

7 THE COURT: And you are what with them?

8 THE WITNESS: I am an expert advisor to them of
9 their statistics and data collection.

10 THE COURT: Great. Thank you.

11 Go ahead.

12 So sorry to foul up your name.

13 MR. GIBBONS: That is quite all right, Your Honor.

14 THE COURT: Good thing I didn't call you Seibert.

15 MR. GIBBONS: It would have been an insult, Your
16 Honor?

17 THE COURT: No, it wouldn't. He is a terrific
18 lawyer.

19 BY MR. GIBBONS:

20 Q Dr. Coston, are you aware of the time line from
21 the passage of the Community Policing Act until the
22 effective date of the act?

23 A I am aware it was a short period of time, yes.

24 Q About 11 weeks, correct?

25 A I would say that is about accurate.

1 Q So is it fair to say that only having 11 weeks
2 from finding out about a data collection requirement
3 until actually being forced to collect data is not
4 ideal?

5 A Probably not ideal, but I don't know how the
6 implementation for that program exactly rolled out.

7 Q Are you aware that data collection under the
8 Community Policing act was an unfunded mandate for RPD?

9 A Yes.

10 Q This data collection was mandated in the early
11 days of the COVID 19 panic?

12 A Yes.

13 Q During the time that RPD was attempting to comply
14 with this Community Policing Act without any additional
15 money, there was significant civil unrest in Richmond?

16 A That is, for a portion of that time, yes.

17 Q RPD went through three police chiefs in three
18 weeks during that time?

19 A Yes.

20 Q RPD was stretched particularly thin during the
21 summer of 2020 when the Community Policing Act became
22 effective?

23 THE COURT: Well, how do you mean that, stretched
24 thin? Because they were trying to do all of the BLM
25 demonstrations and deal with all that?

1 MR. GIBBONS: Yes, Your Honor.

2 THE COURT: So you are familiar with the fact that
3 were BLM demonstrations and the police department had
4 to respond to those, right?

5 THE WITNESS: Yes. I don't know how I would
6 qualify spread thin at that point in time compared to
7 now given that amount of mandatory overtime that police
8 are still working now.

9 THE COURT: All right.

10 BY MR. GIBBONS:

11 Q I will move on, Your Honor.

12 Have you been involved in large data collection
13 projects?

14 A Yes.

15 Q In a new data collection project it would be ideal
16 to have training for collecting data before they start
17 collecting the data?

18 A It depends on how complicated the data collection
19 is, but generally, yes.

20 Q Would you classify data collection under the
21 Community Policing Act as complex?

22 A In this instance, no.

23 The Richmond Police Department was already
24 collecting this type of data for their own internal
25 records prior to this.

1 Q There was nothing different about the Community
2 Police data collection that differed from prior data
3 collection efforts?

4 A There are some differences, but based on the data
5 that they were collecting, the items of information
6 they were collecting, it was largely similar. I don't
7 know that retraining would be incrementally difficult
8 even in a short time frame.

9 Q And you are not aware of any training for those
10 RPD officials that were responsible for data
11 collection?

12 A I am aware that the Department of Criminal Justice
13 Services provided training to departments at some point
14 in time. But that wasn't rolled out until after the
15 beginning of data collection.

16 Q So it was some time after the traffic stop
17 involving Mr. Moore?

18 A I am not sure exactly when the Richmond Police
19 Department received that training. I am aware that
20 they didn't roll out training until after data
21 collection began, but I don't know if that training
22 occurred prior to or after the stop in question.

23 Q One of the benefits of training for those doing
24 data collection is it creates consistency among the
25 data collectors so the data is more reliable. Is that

1 correct?

2 A That's correct.

3 Q And not having consistent data entry procedures
4 can lead to inconsistent data?

5 A That is possible.

6 Q And it is a serious problem if not all of the data
7 is collected, if some don't collect data at all?

8 A I'm sorry. Could you repeat that?

9 Q It is a serious problem if some people, some of
10 the data collectors, simply fail to collect any data at
11 all?

12 A I don't know if I would qualify that as a serious
13 problem. It depends on the extent of the data that is
14 omitted, what its impact is on the overall quality of
15 the data.

16 Q So, for example, if officers in the third precinct
17 have a leader that doesn't believe in the validity of
18 the Community Policing Act, for example, and they don't
19 collect data in the third precinct for a portion of the
20 period, then that could skew the results?

21 A If no one in a particular district collected data
22 for the entire time? Yes, that would be a problem.

23 Q Even if they were disproportionate at rates of
24 data collection compliance throughout Richmond?

25 A It would be beneficial to be able to gauge the

1 extent of the non compliance.

2 Q Are you aware for all of 2020 RPD officers were
3 required to log Community Policing Act data in a simple
4 Google document?

5 A Yes.

6 Q Filling out this Google document required an extra
7 step in addition to the paper work that was required to
8 complete a police stop, traffic stop, excuse?

9 A Yes.

10 Q It could be difficult for somebody to learn a new
11 habit when they have been doing traffic stops for a
12 significant period of time?

13 A It may be.

14 Q Talking about the census data, when a citizen
15 identifies their own race on census paperwork, that is
16 a person's self perception of their own racial
17 identity; is that correct?

18 A That's correct.

19 Q And when an officer identifies a citizen's race
20 during a traffic stop the officer is left to guess the
21 citizen's racial identity?

22 A They enter that information based on their
23 perception of the individual's race.

24 THE COURT: Well, let's stop a second here.

25 Is a police officer's perception of the race of a

1 person they are dealing with a common point of data
2 that is used in your field?

3 THE WITNESS: Yes.

4 THE COURT: Go ahead.

5 BY MR. GIBBONS:

6 Q But there is a mismatch. We are comparing apples
7 and oranges when we talk about self perception of race
8 on census forms and the officer's perception of race
9 during a traffic stop; is that correct?

10 THE COURT: Well, let's see. Are you aware of any
11 studies that show that people don't know what race they
12 are?

13 THE WITNESS: No.

14 THE COURT: Are you aware of any studies that show
15 there is an enormous amount of disparity between what
16 officers perceive as race and what the race is?

17 THE WITNESS: That data exists for perceptions of
18 ethnicity. Often officers don't record Hispanic
19 ethnicity for individuals, even when that is a form or
20 a field that they are supposed to fill out, because
21 they are uncertain. But typically officers do fill out
22 racial information based own perceptions.

23 THE COURT: Are you aware of any studies that show
24 that officers aren't able to understand which people
25 are African-American and which people aren't?

1 THE WITNESS: No. Sometimes they are mistaken,
2 but typically they perceive an individual's race when
3 they encounter them.

4 THE COURT: Well, is the race ever in racial
5 identification of such a nature you would think that
6 those officers' perception of people's race is not
7 reliable?

8 THE WITNESS: No. And I think that the officer's
9 perception is what is most important any way.

10 BY MR. GIBBONS:

11 Q About eight percent of the Community Policing Act
12 data collected by RPD was classified as "unknown race,"
13 is that right?

14 A Yes, there might be instances in which officers
15 are uncertain and put "unknown." But I don't see how
16 that is problematic to the data itself.

17 Q Unless it is officers have difficulties with cross
18 race, cross racial identification, is that correct?
19 That might skew the numbers from one race to another?

20 THE COURT: Cross racial identification has
21 several different meanings. Like cross racial
22 identification, do you mean identification of a culprit
23 or identification of race?

24 BY MR. GIBBONS:

25 Q Identification of race, Your Honor.

1 Let's say we have a white police officer, isn't it
2 true that research indicates that white police officer
3 would be less good at identifying the race of a black
4 person as compared to another white person?

5 THE COURT: Do you have evidence that shows this
6 is true?

7 MR. GIBBONS: I am attempting to demonstrate that
8 a person's --

9 THE COURT: Do you have same evidence that shows
10 that this is true, or is this just hypothetical cross
11 examination?

12 MR. GIBBONS: I don't have evidence, Your Honor.

13 THE COURT: Okay. Well, move on to that something
14 that is real as opposed to saying police officers don't
15 know what race people are. Come on.

16 BY MR. GIBBONS:

17 Q Dr. Coston, the data that you used for your
18 analysis you obtained that data from RPD?

19 A That was passed to the Federal Public Defender's
20 Office, and I get it from them.

21 Q So you don't know at what stage analysis or
22 quality control that you received that analysis from?
23 Or that from.

24 A That data is consistent with data that is in the
25 data of Virginia Community Policing Act.

1 Q Did you go line by line to confirm it matched data
2 on the online portal?

3 A I didn't go line by line, but the overall
4 statistics are the same. When you look at the summary
5 data it is consistent with the data that I was
6 provided.

7 Q Which summary data did you look at? What fields?

8 A The race, the gender, other markers. This is
9 something that I checked on the web site, and I didn't
10 report one for every single field that I checked. So,
11 but, there were no major differences between the data I
12 received and the publically accessible data.

13 Q Were you aware that the RPD Community Policing Act
14 data contained duplicate values?

15 THE COURT: What do you mean by "duplicate data?"

16 MR. GIBBONS: Multiple traffic stops that occurred
17 at the same location for a person of the same race of
18 the same age and for the same statutory violation.

19 THE COURT: Well, you mean if they stopped the
20 same person twice?

21 MR. GIBBONS: That is what it appears as if it
22 occurred in the data, Your Honor.

23 THE WITNESS: In the data in some of these
24 instances that you are referencing characteristics of
25 the individual were different. There was a different

1 reason for the stop indicated. Or a different code
2 violation noted. Even age of an individual being
3 different. So --

4 Q Just to be clear --

5 A -- taking about --

6 THE COURT: Let him finish his answer.

7 MR. GIBBONS: Yes, Your Honor.

8 THE WITNESS: So, I cannot conclude for certain
9 whether those are the same stops or different stops
10 because the information about the individuals is
11 different. The violation is different. I am not
12 convinced that those are duplicates.

13 BY MR. GIBBONS:

14 Q What about instances where the information within
15 the traffic stop entry is completely the same for two
16 or three or four traffic stops?

17 Is that a duplicate?

18 A That may or may not be a duplicate. Especially if
19 there is other information that is missing. Without a
20 time stamp it is incredibly difficult to verify that
21 the information is actually duplicate. For example, an
22 officer might sit in one spot, pull multiple people
23 over for speeding in the same spot. Those people may
24 be the same race. It is possible that even those
25 people could be the same age in some of those

1 instances. Without information such as time stamp that
2 would actually confirm that those are duplicates I am
3 not convinced that they are, the number of duplicates
4 in that data set that has been suggested.

5 Q So, for example, if there is four instances of
6 someone being stopped at the same location on the same
7 day, and the age, gender, statutory violation and post
8 stop outcomes are identical, that was mostly a
9 duplicate rather than four people with identical
10 demographic markers and traffic violations at the same
11 location on the same day; do you agree?

12 A Those could potentially be duplicates.

13 Q You did not address the issue of duplicate values
14 in your report at all?

15 A I did not.

16 Q You didn't exclude duplicate values in your
17 analysis?

18 A I was not able to determine the number of
19 duplicate values based on the information that was
20 provided in the data.

21 MS KOENIG: Mr. Gibbons, how many duplicate values
22 are there?

23 MR. GIBBONS: There are 321 traffic stops entries
24 that have a twin or triplet or quadruplet.

25 THE COURT: Okay.

1 MR. GIBBONS: That is roughly 11 or 12 percent of
2 the data.

3 THE COURT: All right. Go ahead.

4 BY MR. GIBBONS:

5 Q The majority of the stops in the Community
6 Policing Act data for Richmond were for
7 African-Americans; is that correct?

8 A That's correct.

9 Q Because you didn't exclude the duplicate values
10 you included more stops for African-Americans than were
11 actually conducted if those were duplicates?

12 A I would not say that that is correct.

13 Again, I am not convinced that all 312 of those
14 instances that you have pointed to were duplicates, and
15 this also doesn't exclude the potential of duplicates
16 of white drivers. So to conclude that it is only
17 African-American drivers that were duplicated in the
18 file, in the absence of evidence that those were
19 duplicates that only impacted African-American drivers
20 would be incorrect.

21 Q I am not saying that.

22 But if the majority of stops involved
23 African-Americans, then African-Americans would be over
24 represented due to the duplicate values in that data;
25 is that correct?

1 MS KOENIG: I am going to object about speculation
2 here because we have control numbers on each one of
3 these things. If Mr. Gibbons has specific ones he
4 wants to go over with Dr. Coston --

5 THE COURT: I am sure we will hear about that in
6 the future. Am I right?

7 MR. GIBBONS: That is right, Your Honor.

8 THE COURT: All right.

9 BY MR. GIBBONS:

10 Q We talked about the exclusions that you made in
11 the data. Are you aware that as part of the quality
12 check process DCJS when they wrote their state wide
13 report they excluded categories of data that were
14 incomplete or unreliable?

15 A Yes, I am aware they made exclusions.

16 Q You didn't make any exclusions on the same basis
17 that DCJS did?

18 A I made exclusions where those were relevant. So,
19 for example, if that was, if they didn't record race at
20 all I obviously didn't use that data in the analysis
21 that involved race. If they didn't record whether a
22 search was conducted or not, I didn't use that. Rather
23 than eliminating the entire incident I eliminated them
24 when the missing information was relevant. For
25 example, if age is not recorded, but age is not part of

1 one of the analyses I conducted, there is no reason to
2 exclude that entire case if the rest of the information
3 is valid.

4 Q But you didn't -- you said you made exclusions for
5 arrests and searches when you were missing values in
6 those columns; is that correct?

7 A That's correct.

8 If there is no information recorded in those
9 columns then those can't be included in the analysis.

10 Q Did you note in the report that you made
11 exclusions a post hoc basis?

12 A That is not on a pro hoc basis. That is on the
13 basis of missing data. And yes, that was noted in the
14 report.

15 Q You made exclusions for missing data for searches
16 and arrests?

17 A I mentioned that I made exclusions where there was
18 missing data, and indicated that varied by analysis.
19 For each of those analyses conducted you can find the
20 total number of cases, though, reported in the tables.

21 Q So --

22 A This is a common way of reporting statistics and
23 also dealing with missing data.

24 Q So were you aware in the data you used there were
25 147 rows out of 2,578 where no age was recorded?

1 A Yes.

2 Q And six rows with no gender reported?

3 A That sounds about correct.

4 Q Five rows with no value for action taken as a
5 result of the stop?

6 A That also sounds about correct.

7 Q Two rows no value for whether a person was
8 searched?

9 A Again, I am not sure of the exact numbers, but
10 yes, that sounds about correct.

11 Q And 266 rows with no value for whether a person
12 was arrested?

13 A Again, sounds about right.

14 Q So, in all, about 14 percent of the data that you
15 used in your analysis would have been excluded by DCJS
16 for data integrity issues?

17 THE COURT: Wait a second. He has not examined
18 them. The integrity of gender is not important, is it?

19 MR. GIBBONS: We will talk about that I think
20 tomorrow with Mr. McDonough.

21 THE COURT: Why don't we talk about it now?

22 MR. GIBBONS: Mr. McDonough would say it is, who
23 works with DCJS. He is a doctor, Jim McDonough he is
24 the research director for DCJS, who prepared the DCJS.

25 THE COURT: What has that got to do with race?

1 MR. GIBBONS: That they need this wholesale
2 exclusions because they determined that an entire
3 traffic stop was more likely to have invalid data if
4 not completely filled out.

5 THE COURT: Oh. So the fact that they didn't
6 write down the gender means that it is less likely they
7 were able to identify the race of the driver?

8 MR. GIBBONS: Or just the data entry in toto was
9 inaccurate or less likely to be accurate.

10 THE COURT: Okay. Thank you.

11 BY MR. GIBBONS:

12 Q Dr. Coston, you also excluded about ten percent of
13 data because the race identified in the data was Asian,
14 native American, or unknown?

15 A Correct.

16 Q You excluded that ten percent of the data because
17 your particular statistical test record larger group
18 site; is that correct?

19 A That's correct.

20 Q So it was because of your choice of the
21 statistical test that led you to exclude that
22 ten percent of that data?

23 A That would be a common way of handling that type
24 of data in a chi-square analysis.

25 Q But if you had chosen a different statistical test

1 you may not have excluded those values?

2 A I chose the test that was appropriate to the data.

3 Even if that led to the exclusion of some other data.

4 The comparison between white and black drivers is still

5 valid.

6 Q Did you know in the report that there were 266

7 stops for which there is no data for when a person was

8 arrested?

9 A I noted that total number of stops analyzed when

10 it included that arrest in the tables. But that was

11 not specifically noted in the body of the report.

12 Q Talking about location. You used a service called

13 Geocodio to convert the location recorded in the CPA

14 data for latitude longitude coordinates?

15 A That's correct.

16 Q Geocodio will produce a confidence estimate in its

17 coordinates with an accuracy score?

18 A That's correct.

19 Q And then when the accuracy score was less than .6

20 you had interns with the Office of Public Defender

21 double check those locations?

22 A That's correct.

23 Q Generally -- you said this before -- the higher

24 the location the better?

25 A Generally, yes. But not always.

1 Q And then, but isn't that what Geocodio explains
2 how their accuracy score works?

3 A Yes. Not every score with a high accuracy will be
4 high, though. For example, the stop that occurred at
5 Broad and Harrison in the data set was noted in another
6 city because there was a Broad and Harrison there. I
7 corrected those latitude longitude coordinates for
8 Harrison and Broad in Richmond, Virginia.

9 Q And you verified a random selection of the
10 locations that the interns had checked through manual
11 review?

12 A That's correct.

13 Q If the interns noticed -- well, if the interns or
14 you noticed an issue with the location that Geocodio
15 produced, they would insert the correct latitude and
16 longitude, in columns G and H for corrected latitude
17 and longitude?

18 A That's correct.

19 Q So we took the corrected latitude and longitude
20 from column G and H and put that into a map, that would
21 produce a stop within Richmond for those stops that you
22 had corrected?

23 A That's correct.

24 Q So if the results if the latitude longitude
25 recorded in columns G and H result to a location that

1 was far outside Richmond, how would you explain that?

2 A I don't believe they do.

3 THE COURT: Well, that is not the question.

4 Say your question again.

5 BY MR. GIBBONS:

6 Q If the latitude longitude in column G and the
7 latitude H result in a location that is far outside
8 Richmond, say in Scottsville, how would you explain
9 that?

10 A I would explain that by saying that potentially
11 one didn't have the latitude longitude correctly.

12 Q If there were dozens like that, how would you
13 explain that?

14 A I think you are insinuating that --

15 THE COURT: No, no. The question is, how would
16 you explain that? Try to answer the question. Okay?

17 THE WITNESS: I would not have an explanation for
18 how there would be dozens of them.

19 BY MR. GIBBONS:

20 Q So in your report there were, you did a heat map,
21 or you did a plot mapping. You plotted some of these
22 locations within Richmond and outside of Richmond; is
23 that correct?

24 A Yes.

25 Q And there were some plots on your maps that were

1 outside of Richmond; is that correct?

2 A Yes.

3 In the proximity of Richmond.

4 Q You didn't see any plots that were far outside
5 Richmond when you did that plotting?

6 A No.

7 In the initial I did see items that were far from
8 Richmond. In Charlottesville. Again, those are ones
9 that I went back and manually corrected based on the
10 location data provided in the spread sheet by the
11 Richmond Police Department.

12 Q When you map these stops on pages nine through
13 eleven of your report you didn't notice that hundreds
14 of them were outside Richmond?

15 A I did not see hundreds of points outside of
16 Richmond in this map, no.

17 Q So RPD officers can conduct some stops from
18 defined distances outside the City of Richmond?

19 A That is correct.

20 Q Did you conduct an analysis to insure that only
21 those stops that occurred within these boundaries were
22 included in your analysis?

23 A When I conducted the chi-square analyses I ran the
24 analyses for the cases, which is what you would
25 commonly do in statistical modeling to insure those

1 locations, those stops that occurred just outside the
2 jurisdictional boundaries versus those within didn't
3 have any impact on the overall verdict.

4 Q When you run tests with or without a variable, for
5 example, either clearly inside Richmond or clearly, or
6 just all of them, you are only testing one type of
7 error at a time; is that correct?

8 A You are only doing one statistical analysis at a
9 time, yes.

10 Q If you have multiple sources of statistical error,
11 such as hundreds of instances of unreliable data, or
12 hundreds of stops that occurred outside of Richmond,
13 you wouldn't necessarily see the interaction of that
14 when you included all of that of data in your analysis?

15 THE COURT: I didn't understand the question.

16 BY MR. GIBBONS:

17 Q Sorry, Your Honor. I will rephrase.

18 When you run an analysis with or without the
19 location that are outside Richmond, you do that with
20 one source or error at a time; is that correct?

21 A Yes. Every test is, has a potential error rate,
22 that is correct.

23 Q When you combine multiple sources of statistical
24 error, such as the stops that DCJS excluded for
25 unreliability, and the stops that are outside Richmond,

1 and the duplicates, you are testing those one at a time
2 to the extent that you are aware of them; is that
3 correct?

4 A You are conducting each analysis at once, but,
5 yes, there are multiple sources of statistical error
6 for each statistical test that you run.

7 Q You weren't aware of the DCJS exclusions when you
8 did your analysis; is that correct?

9 A That is correct.

10 Q So you didn't run a test with or without that data
11 to determine if it was the same with or without?

12 A No, because I wasn't aware of those exclusions,
13 and that is not data that I would have chosen to
14 exclude.

15 Q And the same with the duplicates. You weren't
16 aware of that at the time you ran your analysis. So
17 you didn't even test to see whether your analysis was
18 correct with or without the duplicates?

19 A I don't believe that there were 312 duplicates.

20 Q Let's talk about the basis of comparison or what
21 is called the benchmarking problem.

22 Once a researcher identifies the percentage of
23 each range that was actually stopped, the next step is
24 comparing it against the race percentages of those
25 eligible to be stopped; is that correct?

1 A That is, yes, that is one method of benchmarking.

2 Q To do this research one needs to determine the
3 percentage of drivers on the road?

4 A That is one method of benchmarking.

5 Q What are other methods of benchmarking?

6 A For example, it crash data benchmarking. The
7 benchmarking standards that we reviewed a few minutes
8 prior.

9 Q But aren't those different methods of analysis to
10 determine who is driving, who is on the road?

11 A Yes, and that is what benchmarking attempts to
12 capture.

13 Q That was my question.

14 And there are multiple ways to do the benchmarking
15 like you just alluded to?

16 A That's correct.

17 Q And these other methods would have been more
18 reliable than what you ended up doing if you had access
19 to that data?

20 A It is possible that other benchmarks would produce
21 different results, but I didn't use the benchmarking
22 for the statistical analyses. Only used the census
23 benchmark to creates the maps.

24 Q So you only produced raw statistical disparities
25 for your statistical analyses?

1 A That's correct.

2 Q And that was the sole basis on which you
3 determined that blacks were more likely to be stopped?

4 A Yes, using the appropriate statistical test.

5 Q Didn't do any benchmarking at all when you
6 determined whether blacks were more likely to be
7 stopped?

8 A The chi-square does not make assumptions about the
9 underlying distribution of the data.

10 Q So your analysis does not even begin to consider
11 the percentage of drivers on the road?

12 THE COURT: I think you made clear he didn't look
13 at the number of people on the road because he didn't
14 have that data. Isn't that right?

15 THE WITNESS: No. It didn't have data on the
16 percentage of drivers on the road.

17 BY MR. GIBBONS:

18 Q But you didn't use census data at all to aid you
19 in your benchmarking analysis?

20 A No.

21 Q Which census, which census data did you use in the
22 analysis?

23 A The American Community Survey, 2016 to 2019
24 supplement.

25 Q Are you aware that the exhibit R-2 dot map that

1 was shown to you by the defense is from 2010?

2 A Yes, I am. That is census data.

3 Q But it is old census from ten years ago?

4 A Yes.

5 Q And the stop data here is from 2020?

6 A Yes.

7 Q When you did your, when you used your census data,
8 you included people that were zero to 14 years old, who
9 were ineligible to drive?

10 A That's correct.

11 Q You would include those non drivers in your
12 estimate of the driving population within Richmond?

13 A I didn't estimate the driving population of
14 Richmond. And the reason I am using the demographic
15 information from the American Community Survey is
16 really looking at where people are getting pulled over,
17 and in relationship to the racial composition of that
18 particular neighborhood. Where people drive isn't
19 necessarily where they live, but where people are
20 pulled over is relevant to the demographics of those
21 neighborhoods.

22 Q So your analysis assumes people are pulled over
23 only in their own neighborhoods?

24 A No, I actually just said that, not that. The
25 opposite of that. People are pulled over in all kinds

1 of places. They don't necessarily live there. People
2 in Richmond can be pulled over in other cities, other
3 states. People from other cities and states are pulled
4 over here. But what I am saying is that the race of
5 the driver is important, as is the area in which they
6 are pulled over, the location that they are pulled
7 over.

8 Q So when your overlay traffic stop data on to
9 census residential data --

10 A You are asking the question, pulled over where?

11 Q You are essentially comparing apples and oranges
12 because where people live is not the same as where they
13 are pulled over.

14 A I would not say that is true.

15 Q Why not?

16 A Where an individual experiences a traffic stop,
17 where an individual is pulled over, where they happen
18 to be in geographic space, whether it is one
19 neighborhood or another isn't important.

20 Q If somebody can be pulled over somewhere not close
21 to their home, then why did you overlay demographic
22 census data with traffic stop data as you did in figure
23 five of your report?

24 A To understand where people of different races are
25 being, where people of different races are being pulled

1 over in the City in relation to the racial composition
2 of those neighborhoods. Black drivers are pulled over
3 in predominantly white neighborhoods. Black drivers
4 are also pulled over in predominantly black
5 neighborhoods. White drivers are not pulled over in
6 predominantly black neighborhoods. Where and how black
7 drivers experience policing when they are stopped for a
8 traffic stop is relevant.

9 That is my argument.

10 Q Okay. I will move on.

11 When you ran your statistical analyses, despite
12 the extensive community environment of Richmond your
13 analysis not account for or explain the presence of
14 commuters.

15 A Again, it is who is pulled over where. They are
16 still driving in Richmond, it is still possible for
17 them to be pulled over whether they are commuting or
18 not.

19 Q But people can come in from Henrico or
20 Chesterfield County and get pulled over in Richmond; is
21 that correct?

22 A Yes. Absolutely.

23 Q That wouldn't be accounted for when you use census
24 data from within the City of Richmond and overlay that
25 on to traffic stops that occur within the City of

1 Richmond?

2 A If you are a black person being pulled over in a
3 white neighborhood, you are a black person in a white
4 neighborhood regardless of the neighborhood it is and
5 regardless of where you are driving from.

6 Q But when you overlay residential census statistics
7 onto traffic stops you don't know whether -- be -- let
8 me try to find a good way to explain this.

9 You are using census data to estimate the racial
10 background of the area in which traffic stops occur; is
11 that correct?

12 A Yes.

13 Q But because people don't always get pulled over
14 where they live, you are comparing apples and oranges
15 when you overlay residential census data and traffic
16 stop data.

17 A That is still -- you are still talking about a
18 relationship between two things, even if it is housing
19 and driver race. I think that my point still stands.
20 If black people are being pulled over in white
21 neighborhoods, black people are being pulled over in
22 white neighborhoods regardless of whether they are
23 black people that live close by or they live in another
24 state and happen to be driving through.

25 Q Were you aware of the DCJS report at the time you

1 completed your report?

2 A Yes.

3 Q You didn't include any of the caveats that DCJS
4 included in their report in your report?

5 A I don't agree with all the caveats in the DCJS
6 report.

7 Q That is not the -- question's was, the question
8 was, did you include them in your report?

9 A No, because I don't agree with them.

10 Q Are you aware of the practice of police deploying
11 more officers to areas in which crime rates and calls
12 for service are higher?

13 A Yes.

14 Q And your analysis does not account for that common
15 practice.

16 THE COURT: Well, his analysis doesn't even
17 consider that, does it?

18 THE WITNESS: No.

19 THE COURT: He and I talked about that earlier.

20 BY MR. GIBBONS:

21 Q Instead your analysis assumes that any statistical
22 disparity is a result of discrimination, correct?

23 A Of racial disparity policing, yes.

24 Q So of all the different factors that could cause
25 differential outcomes in traffic stops, you just

1 assumed that race is the cause for that disparity in
2 traffic stops?

3 A I would say that there are statistically
4 significant findings that race is a factor in traffic
5 stops and their outcomes.

6 Q So just assume for me, kind create a picture of
7 words here. We have, trying to determine a
8 relationship between two variables. Call them A and B.
9 In your analysis determined -- well, it is a bivariate
10 analysis; is that correct?

11 A That's correct.

12 Q By a bivariate analysis is just a fancy way of
13 saying determining the relationship between two
14 variables?

15 A Yes.

16 Q And your analysis determined that there is some
17 kind of relationship between race and traffic stop; is
18 that right?

19 A Yes.

20 Q But you didn't account for differential policing
21 patterns; is that correct?

22 A Differences in outcome by race are differential
23 policing; but interpretive external factors in
24 differential policing, no.

25 Q Sure. So police deployment patterns, you didn't

1 consider that?

2 A No. Total number of stops. Police designated,
3 policing patterns still don't dictate who is stopped.
4 Police are still making the individual unit
5 determinations about who to stop and who not to stop.

6 Q And your analysis didn't consider the effect of
7 socioeconomic status?

8 A No, that wasn't a variable in the data set.

9 Q So you just took the data that you had and
10 performed the best analysis you could based on that?

11 A That is how statistics work. We don't always have
12 all possible data. We take the best data that is
13 available to us, and analyze it in a way that is
14 appropriate to that data.

15 Q Are you aware DCJS stated that the poor quality of
16 the data prevented drawing any further conclusions
17 about whether traffic stops were caused by bias?

18 A My understanding is that the data quality differed
19 across jurisdictions.

20 THE COURT: No. Please just answer the question.
21 If you do that we will get out of here a lot sooner.

22 The question was, are you aware that DCJS said you
23 can't reach any conclusions about causation from the
24 data that they have?

25 THE WITNESS: I am not making conclusions about

1 causation.

2 THE COURT: Okay.

3 Well, isn't one of the things we have to prove in
4 this case is that race caused this disparity?

5 THE WITNESS: I am trying drawing conclusions
6 about the large scale patterns and relationships
7 between race and the other variables that were
8 examined, but I can't -- I am not characterizing those
9 as a causal relationship.

10 THE COURT: Well, isn't that statistical analysis
11 doesn't deal with causation, does it?

12 THE WITNESS: There are some statistcinal models
13 that deal with causation, but chi-square does not. And
14 even regression techniques.

15 THE COURT: Does regression deal with causation?

16 THE WITNESS: Some people infer causation from
17 regression, but from a typical regression model, no.
18 Advanced regression models sometimes you can use to
19 determine causation.

20 THE COURT: Can you determine causation from
21 chi-square ever?

22 THE WITNESS: No.

23 THE COURT: No.

24 BY MR. GIBBONS:

25 Q Let's talk about your analysis. You ran your

1 analysis on data beginning July 1 of 2020 and ending
2 December 6 of 2020?

3 A That's correct.

4 Q Did you consider any other date ranges for your
5 analysis?

6 A No.

7 Q So you found if the date range is July 1 of 2020
8 to December 6 of 2020, the adjusted data shows
9 African-Americans accounted for 77 percent of stops and
10 whites 14 percent of stops.

11 A Yes.

12 THE COURT: Mr. Gibbons, do you agree that the
13 burden is on the defendant to prove that race caused
14 this disparity?

15 MR. GIBBONS: Your Honor, emphatically.

16 THE COURT: Do you agree that the witness just
17 admitted that doesn't show that?

18 MR. GIBBONS: Yes, Your Honor.

19 THE COURT: And why are you continuing to ask
20 questions?

21 MR. GIBBONS: I could rest, Your Honor.

22 THE COURT: Well, no --

23 MR. GIBBONS: I have a few more questions.

24 THE COURT: You are the lawyer. I already messed
25 up their case. I don't want to mess up yours.

1 MR. GIBBONS: I will make it very brief.

2 THE COURT: That is okay. Ask whatever you feel
3 like you need, but I think that was a pretty
4 significant answer there.

5 BY MR. GIBBONS:

6 Q Dr. Coston, were you aware if you include the
7 first full year of traffic stops from July 1 of 2020 to
8 June 30th of 2021 the percentages of stops of
9 African-Americans drops to 68 percent of stops and the
10 percentage of stops of whites rises to 24 percent of
11 stops?

12 A That doesn't surprise me. It is a different
13 sample. Varies from sample to sample.

14 Q So you chose the sample that showed the highest
15 raw statistical disparity?

16 A I didn't chose the sample focused on the
17 disparity. The end date for the sample was due to when
18 the time of the stop occurred. And July first
19 obviously being the earliest data that was available.

20 Q Dr. Coston, you are in the -- let's talk about
21 your employment. You are a professor in the Department
22 of Gender, Sexuality, and Women Studies at VCU?

23 A That's correct.

24 Q In your official VCU biography you describe
25 yourself as an "activist scholar?"

1 A That is correct.

2 Q You are teaching research primarily involved LG,
3 LGBTQ issues?

4 Q I have two main research, one of them is LGBTQ
5 issues, and other focuses on disparities in policing.

6 Q Dr. Coston, are you active in social media going
7 back to at least 2018 and continuing to the present?

8 A Yes.

9 Q Your Twitter handle is "@ Eli Coston?"

10 A I think so, or "@ Dr. Eli Coston."

11 Q And when you tweet something, that is indicating
12 your opinion or thoughts about a particular topic?

13 A Sometimes. If I tweet it myself. Retweets maybe
14 not.

15 Q You have made several public statements on social
16 media recording policing in Richmond; is that correct?

17 A Yes.

18 Q And that involves work with the Richmond
19 Transparency and Accountability Projects, Or R TAP?

20 A That's correct.

21 Q You have also been heavily involved in trying to
22 institute a civilian review board for RPD?

23 A That is correct.

24 Q And in that capacity you have been public in
25 criticizing the police chief and the mayor because they

1 didn't adopt your proposal?

2 A I don't know that I would characterize it in that
3 way. I have been critical of the inaction about moving
4 toward civilian oversight that was asked for by
5 community members, yes.

6 Q So did you tweet on March 22, 2022 at 1:14 p.m.
7 "Richmond, Virginia, TAP, or the accountability
8 committee, now offering public comment to oppose the
9 mayor's proposal. I will be speaking against it as
10 well?"

11 A Yes.

12 Q Did you tweet on June 2nd of 2020 at 12:5 p.m.
13 "Speakers are calling out the racism of police. Black
14 people are being targeted by the police. Out," which I
15 believe means "or our," police force is racist and
16 brutal." Did you tweet that?

17 A I don't remember.

18 Q If it came from "@Eli Coston" with your picture as
19 your profile picture, would you dispute that is your
20 tweet?

21 A I wouldn't dispute it. I don't specifically
22 remember tweeting it. I believe I was -- I believe I
23 was recapping what was happening at a City Council
24 meeting, in the public comments.

25 Q Did you tweet on August 5 of 2018, "RPD still

1 won't release data on traffic stops or Terry stops in
2 Richmond. These practices are often racially biased."

3 A Yes.

4 Q You believe that that, that traffic stops and
5 Terry stops are racially biased?

6 A Well, there are many studies that show that
7 especially Terry stops or racially biased.

8 Q That was before you were retained as an expert in
9 this case to opine whether traffic stops in Richmond
10 were racially biased?

11 A Yes.

12 MR. GIBBONS: No further questions, Your Honor.

13 THE COURT: All right.

14 Redirect? Do you need a few moments to gather
15 your thoughts?

16 MS KOENIG: I don't, Your Honor.

17 I do want to point The Court's attention to some
18 cases we cited in the ECF 66, which are also cited in
19 some other of the supplemental briefing. But the law
20 says that is in some cases blunt statistical
21 evidence --

22 THE COURT: I understand.

23 MS KOENIG: -- can be used to demonstrate.

24 THE COURT: I can infer from that --

25 MS KOENIG: Correct.

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1 THE COURT: -- there is a problem.

2 MS KOENIG: Correct.

3 THE COURT: Okay.

4 REDIRECT EXAMINATION

5 BY MS KOENIG:

6 Q Dr. Coston, I am going to talk to you little bit
7 about the deployment effect. Tell us what is the
8 deployment effect.

9 A So essentially when officers are deployed to
10 particular areas officers are trained to look for crime
11 in those areas. What we see is when more officers are
12 deployed in more areas they tend to find more crime,
13 also engage in issuing summons or citations for lower
14 level offenses than were previously issued.
15 Essentially, police are trained to look for crime, and
16 so when you deploy more officers to an area they will
17 find more crime. If you put a hundred officers in one
18 neighborhood, one officer in another neighborhood,
19 clearly you are going to have more citations, clearly
20 you are going to have more summonses issued in a place
21 where there is a hundred officers versus where there is
22 one or where there is ten.

23 THE COURT: Before we get too far into this, your
24 expertise is in the area of statistics. How do you get
25 knowledge about the deployment?

1 THE WITNESS: So, I also study policing. I study
2 LGBTQ treatment. Study policing in racial disparities
3 and how those interact with the criminal legal system.

4 BY MS KOENIG:

5 Q Dr. Coston, if we could turn your attention to,
6 turn your attention to defendant's exhibit five, which
7 has already been admitted.

8 Does this article talk about the deployment effect
9 and how it can be sort of a negative feedback to where
10 you send more officers out they find more crime, they
11 send more officers out, they find more crime?

12 A Yes.

13 Q Essentially what we were just taking about?

14 A Yes.

15 Q So as a part of your work in analyzing such
16 statistics, is that how you have come across that kind
17 of theory?

18 A Yes.

19 Q Okay.

20 When we have the question of whether that there is
21 deployment effect, does it beg the question as to why
22 different areas are being policed or over-policed?

23 A Yes.

24 Q And how it could reinforce patterns of high crime
25 areas?

1 A Yes.

2 Q Sort of a continuous negative feedback, right?

3 A Yes.

4 Q Okay.

5 A And likewise, there have been studies conducted
6 about how race is implicated in that feedback group as
7 well.

8 Q I want to turn your attention now to questions
9 Mr. Gibbons was asking you about the duplicates. So
10 when we talked about and looked at defendant's exhibit
11 14, which is the final sample you ultimately used for
12 analysis in this case, we talked about the control
13 number column, right?

14 A Yes.

15 Q Did we include the control number column so that
16 we, if we had to go back later and talk about specific
17 stops that we could refer to specific control numbers,
18 right?

19 A Yes.

20 Q Have you, have we ever been given by the
21 government any control stop list of what they believe
22 are duplicates?

23 A No.

24 Q Have we ever been given any control stops for what
25 they think are data that should be excluded?

1 A No.

2 Q And have we ever been given any control stop
3 numbers that they believe were, I think we have been
4 given three in briefing, of stops that the government
5 thought were incorrectly captured in the City data,
6 right?

7 A That may be correct. I am not sure if we were
8 given control numbers. I know that there were specific
9 locations referenced in by Dr. Smith, but I am not
10 aware of seeing control numbers.

11 Q From that we were able to ourselves determine the
12 control numbers of the three incidents, right?

13 A Yes.

14 Q Have we ever been given a list of control numbers
15 of the stops that the government thinks are outside of
16 the City of Richmond --

17 A No.

18 Q -- these hundreds of stops, right?

19 A No.

20 Q You went back after reading a report indicating
21 that that is something that the government was looking
22 into, and you verified the information that you had
23 that it was 81 stops that were outside of the City?

24 A That's correct.

25 Q Okay.

1 And you were a professor -- you teach some
2 statistics classes, right?

3 A Yes.

4 Q One of basic principles of teaching students of
5 how to start doing statistical analysis, you have to
6 chose the right analysis from the beginning?

7 A That's correct.

8 Q When we were talking, I want to make sure I am
9 understanding the point that you are trying to make in
10 terms of using American Community Survey data for the,
11 to create the heat map, right?

12 A Yes.

13 Q But you didn't use that because you could not
14 determine the overall population of drivers in
15 Richmond, correct?

16 A That's correct.

17 Q And that is why you couldn't do a chi-square
18 analysis on the variable simply of who was stopped
19 according to race, right?

20 A Correct. You could conduct a different analysis
21 if you knew the races of all the people who are driving
22 in Richmond. But, again, that is not a knowable
23 number.

24 Q But what you do know is that, as you said earlier,
25 it is significantly disproportionate, right?

1 A That's correct.

2 Q In terms of the race of the drivers that are
3 ultimately stopped?

4 A The race of the drivers and the outcome of that
5 stop, yes.

6 Q And when you are looking at the American Community
7 Survey data in relation to the stop, we could possibly
8 describe the conclusion, not conclusion, but the
9 visualization that we see, we could arguably interpret
10 that as policing the borders, right?

11 A Yes, I do.

12 Q And we know from the information that is depicted
13 in figure one, which is where you plotted all of the
14 traffic stops according to race that ran our data set,
15 right?

16 A Yes.

17 Q We saw that white people were stopped throughout
18 the City, right?

19 A Yes.

20 Q And we saw that in despite the fact that white
21 drivers are pulled throughout the City, we still -- and
22 black drivers are pulled in the white parts of town as
23 well, right?

24 A Yes.

25 Q Okay.

1 A This is why race is important, because white
2 drivers are stopped predominantly in white areas of
3 town, but black drivers are stopped everywhere.

4 Q When we talk about the information in the
5 Department of Criminal Justice Services report, again
6 they didn't do the same statistical significance impact
7 analysis that you did, but ultimately the findings for
8 Richmond were the same as yours, right?

9 A They also found disparities, yes, for black
10 drivers.

11 Q And they, I want to make sure we are clear, you
12 were given from the, from the Federal Public Defender
13 Office the date that the analysis was to happen, right?

14 A That's correct.

15 Q We did receive a whole year of data from the
16 Richmond Police Department, right?

17 A Yes.

18 Q But we only did the analysis up until the date
19 that Mr. Moore was stopped, right?

20 A Yes.

21 Q Okay.

22 Talking a little bit about the end, not going to
23 go through the social media account, but when you were
24 working with R TAP how long did it take for Richmond
25 Police Department and City of Richmond to turn over the

1 data that you all had been seeking to do that analysis?

2 A That took years. Two and a half to three years I
3 think to receive all of it.

4 Q Was that after many, many, many hours of meetings
5 and negotiations and requests to get them to turn over
6 that data?

7 A Yes. We submitted numerous Freedom of Information
8 requests to the police department. Many of which
9 remember denied. Some of which simply weren't
10 responded to. It required a sit-down meeting between
11 the chief of police at the time, members of R TAP,
12 including myself, Mayor Stoney, and also the I T and
13 people from I T and City legal to actually come to an
14 understanding about what data would be released. And a
15 time line for releasing that. Even subsequent to the
16 meeting I think it took a full nine months before we
17 got all of the data that was requested subsequent to
18 that meeting.

19 Q Was it a fair summary or assessment that Richmond
20 Police Department did not seem eager to turn over the
21 data that was requested?

22 A In fact, the first time that they submitted the
23 data to us, the data did not receive, did not contain
24 all of the items that were initially requested and
25 agreed upon. We had to send that back and wait another

1 several months before they turned over that
2 information.

3 Q No further questions.

4 THE COURT: All right.

5 Anything further?

6 MS KOENIG: Not from the defense, Your Honor.

7 THE COURT: May he be excused?

8 MS KOENIG: I agree with the Government,

9 Dr. Coston will be allowed to stay to listen to the
10 remainder of the witness in an advisory capacity.

11 THE COURT: You can stay. Okay.

12 THE WITNESS: Thank you.

13 (Witness stood aside)

14 All right. Well, do you have more witnesses?

15 MS KOENIG: No.

16 THE COURT: So --

17 MS KOENIG: Sorry, Your Honor, I do have --

18 THE COURT: Are you going to, will Mr. Chiles or
19 Dr. Chiles we moved off to a future date -- can you
20 help him get out of there?

21 MS KOENIG: The only other exhibit, Your Honor,
22 aside from the exhibits --

23 THE COURT: I can't understand you.

24 MS KOENIG: Sorry, Your Honor.

25 The only other exhibits that have not yet been

1 admitted that are on my list are defendant's exhibit
2 nine through 12, which relate to Dr. Chiles. And then
3 defense exhibit 13, which is in ECF number 81, which is
4 the Richmond Police Department's response to the
5 subpoena that The Court issued about the police
6 precincts. And I do ask The Court to take judicial
7 notice of that because it is already in The Court's
8 file.

9 THE COURT: All right. I will take notice. I
10 guess it is admitted.

11 MS KOENIG: No evidence at this stage.

12 THE COURT: All right.

13 So you are not going to call then your other
14 witness, Mr. Hush?

15 MS KOENIG: Right.

16 THE COURT: All right.

17 So they are done for the day. And we will start
18 off tomorrow morning, okay?

19 MR. GIBBONS: Yes, Your Honor.

20 THE COURT: And we will start at nine tomorrow.
21 Is that all right with everybody?

22 MR. GIBBONS: Yes, Your Honor.

23 THE COURT: Thank you. You know, I will look
24 forward to seeing you then. Thank you very much.

25 Recess for the afternoon. Thank you all very much

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1 for coming and good job putting on the evidence.

2 I will see you in the morning. Thank you.

3 I gave you a date to give your summary to

4 Mr. Gibbons, right?

5 MS KOENIG: Yes, Your Honor.

6 THE COURT: Okay. And then your date to respond.

7 MR. GIBBONS: Yes, Your Honor.

8 THE COURT: Thank you all very much.

9 HEARING ADJOURNED

10

11 THE FOREGOING IS A TRUE AND CORRECT TRANSCRIPT.

12 GILBERT FRANK HALASZ, RMR

13 OFFICIAL COURT REPORTER

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